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Information for Contributors and Subscribers

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ERRATUM NOTES

On page 180 of September, 1954 issue ("Perceived Parent Attitudes as Determinants of Children's Ego Structure" by David P. Ausubel *et al*), the sentence beginning in the 11th line should have read: "Thus, children who perceived themselves as extrinsically valued tended to manifest more stylus maze goal tenacity and notions of omnipotence, to disagree more with perceived parent opinions, and to be rated as less executively independent and as less able to postpone hedonistic gratification. (As printed, "more" and "less" were transposed.)

On page 299 of December, 1954 issue ("Socio-Economic Background of Children with Impaired Hearing" by Martha Crumpton Hardy), the three lines immediately below the table should appear instead as the last three lines on the page.

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PATTERNS OF AGGRESSION IN THE NURSERY SCHOOL

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There is reason to believe that nursery school behavior tends to be specific to the nursery school situation (4, 6, 7). The behavior patterns observed and recorded in the nursery school are a result of the interaction of the child, what he brings to the situation in the way of past experiences, and his biological constitution with situational factors such as school setting, the behavior of others in the school, and their responses to the child. It is believed that study and analysis of the situational factors involved in child behavior will yield useful data.

As a pilot study, the present investigation represents an attempt to give due emphasis to the influence of the situation on behavior. Aggressive behavior was observed and recorded in terms of (1) the techniques used by the children in aggressive episodes, and (2) the direction of aggressive behavior. These aspects of aggression patterns are analyzed as a function of the interaction of the children with the nursery school situation.

The 20 subjects of this study were drawn from two nursery schools in Columbus. The subjects constituted two groups of 10 children from each school and shall be referred to as group A and group B. The 10 children in group A attended the University nursery school. Attendance was by the quarter and set fees were paid accordingly. Group B consisted of 10 children from a community supported day school. No fees were paid, except in some cases and then only what the parents could afford. Since this school served working mothers, it functioned largely in a custodial capacity. Age limits for attendance were flexible. The population of this school ranged in age from two (sometimes slightly below two) to six years. School A, on the other hand, served only children aged two to four years. There were 20 children enrolled in school A and 23 in school B.

Group A was made up of seven boys and three girls; group B included eight boys and two girls. The ages of the children in group B ranged from 26 months to 52 months with an average age of 37 months. Group A had an average age of 39 months with an age range of 32 to 45 months. These

figures represent ages of the children at the time observations were started in each group. The mean length of nursery school experience for group A was 28.1 weeks, and for group B, 33.5 weeks.

Procedure

Time sampling technique was used. Each child was observed for 7½ minutes a day for 18 days. The 7½ minutes were divided into three 2½ minute samplings. A total of 135 minutes of observation was recorded for every child. The observations were randomized.

Observations were recorded on mimeographed behavior record sheets consisting of six scales. The six scales were grouped into three major divisions designating direction of aggressive behavior: aggression directed toward teachers; aggression directed toward children; and aggression directed toward objects. The three divisions each contained two scales—one for recording physical aggressive responses and another for recording verbal expressions of aggression. Each of the six scales was divided into five units or categories. (The categories are listed in Table 2.) These units were distributed with the "no aggression" category on the left end of the scale and the "excessive aggression" (unprovoked attack) category on the right end of the scale.

Frequency scores were obtained by counting tally marks in each category. In comparing groups A and B, chi square was computed from $2 \times k$ tables to discover if any significant differences in aggression patterns existed between the two groups. If significant differences were found in a set of scores, then the scores in each category were tested against all scores appearing in the rest of the categories of that scale. In other words, sub-scores were tested for significance only when there was a significant difference between the total scores of a major division or scale.

Reliability coefficients were computed for each group as an estimate of the consistency of aggressive behavior. Frequency scores for each child from one Monday were correlated with his score for another Monday. Similarly, a Pearson product-moment coefficient of correlation was calculated for the five days of the school week. The five coefficients were converted to z scores and summated. The average z was then converted to an r. The coefficient of consistency of behavior from one day to the next was .59 for group A and .49 for group B.

Results

One of the most marked differences between the groups was in relative amounts of aggression in speech and action, as shown in Table 1. Group A children tended to show both kinds of responses more often than did group B children. These differences might be attributed to the following factors:

TABLE 1

DIFFERENCES IN DIRECTION OF AGGRESSION BETWEEN GROUPS A AND B

Chi Square	*p*	*Direction*	*Group A*	*Group B*	*Chi Square*	*p*
		Verbal Responses				
		Teachers	17	8		
		Children	97	33	2.31	.30
		Objects	5	0		
		Total	119	41		
13.22	.001					
		Physical Responses				
		Teachers	44	16	6.44	.02
		Children	159	139	32.89	.001
		Objects	65	37	1.61	.20
		Total	268	192		
		Total Responses (physical and verbal)				
		Teachers	61	24		
		Children	256	172	4.81	.10
		Objects	70	37		
		Total	387	233		

1. The wider age range in group B nursery school tended to limit social interaction in this group. It has been shown that quarrels and conflicts tend to increase with increasing social contacts (1, 5). Less variability in age within group A may have increased homogeneity of interest and activities. Also, social interaction was encouraged as one of the aims of this school.

2. Seven of the 10 children in group B were boys from fatherless homes. All 10 group A subjects were from father-present homes. Sears' study of aggression (6) showed that boys from father-absent homes displayed fewer aggressive responses than did boys from father-present homes. He indicated that the father probably contributed toward sex-typing of boys and served as a more aggressive model than the mother.

3. The greater number of verbal responses in group A points to the influence of school and home. Direction in this nursery school probably enhanced verbal behavior learned in the home environment. Since parents of these children were all professional persons, it might be expected that verbalization in these homes was of a higher level as well as more frequent than in group B homes. Teaching in group A school stressed verbalization as a desirable means of self-expression and communication. During physical conflicts children were usually separated and encouraged to talk over their disagreements.

4. Gross observations of the groups indicated that group A children were on the average more active than group B children. Activity level in group B may have been influenced by the nursery school situation as well as by home factors. The playground of B nursery was hot and sunny. Group A playground, on the other hand, was completely shaded and provided ample cool space for active games and movement.

Stimulation resulting from parent-child contacts has been found to affect level of child activity (2). This may have influenced aggression through limitations imposed on interaction among children in group B. Mothers of group B children indicated that they had little energy to devote to their children after working all day. Group A mothers, on the other hand, probably spent more time with their offspring since they did not work. These children also spent more time in their homes since nursery school hours lasted only half a day.

As shown in Table 1, differences were found between groups in direction of physical aggression. Group A showed significantly more responses toward children and teachers. Here, too, the structure of the groups probably had its influence. More opportunities for social contacts due to age range and activity level in group A may have produced situations in which conflicts were more likely to occur. The difference in amount of physical aggression directed toward teachers may be attributed to the difference in opportunities for interaction with adults. Differences in teacher-children ratio between the schools were augmented at school by the teaching schedules. Since the two teachers had to be on duty all day, they divided their actual hours of association with the children so that one teacher stayed with them while the other took her turn in the office. Thus, group B children had only one adult in the group at a time. At the other nursery school, all staff members (three teachers and two student assistants), with the exception of the dietitian, stayed with the children during the entire nursery school period.

Despite the greater number of toys available to group A, the difference between groups in amount of physical aggression directed toward objects was not significant. It would seem that these responses were not favored by either group. Nursery school equipment in both schools was adapted for use by preschool children. Irritations due to inability to manipulate the equipment were at a minimum.

Although group A showed more total responses, the difference between groups with regard to direction of verbal aggression was not significant.

An examination of the scores from both groups showed no significant differences in the techniques of aggression directed toward objects (Table 2). Verbalizations of aggression in this direction were non-existent in group B and there were only five such responses in group A. Three of these responses were in the "verbalizes to himself" category. Misuse of toys was the most frequent physical technique used by both groups.

Only one significant difference was found between groups in the techniques of aggression directed toward teachers. Table 2 shows that group A exhibited significantly more responses in the "resists direction" category. This difference may have been the result of a number of contributing factors. Not only were there more adults in this school, but these adults also gave a great deal of individual guidance to the children. This individual attention could be termed "adult interference" in that it was always an inter-

TABLE 2

DIFFERENCES IN TECHNIQUES USED IN AGGRESSION BETWEEN GROUPS A AND B

Direction	*Technique*	*Group A*	*Group B*	*Chi Square*	*p*
Teachers					
	Verbal				
	To himself	4	2		.42 *
	Brief verb.	9	4		.17 *
	Ext. coherent	3	2		.51 *
	Ext. incoherent	1	0		.68 *
	Physical				
	Resists	41	16		.009*
	Threatens	2	0		.53 *
	Provoked	1	0		.73 *
	Unprovoked	0	0		1.00 *
Children					
	Verbal				
	To himself	6	3		
	Brief verb.	56	24		
	Ext. coherent	27	5	3.80	.29
	Ext. incoherent	8	1		
	Physical				
	Interferes	31	35	1.21	.28
	Threatens	50	29	4.26	.05
	Provoked	27	45	12.81	.001
	Unprovoked	52	30	5.87	.02
Objects					
	Verbal				
	To himself	3	0		1.00 *
	Brief verb.	1	0		1.00 *
	Ext. coherent	1	0		1.00 *
	Ext. incoherent	0	0		1.00 *
	Physical				
	Misuses	56	36		.89 *
	Threatens	1	0		.64 *
	Provoked	0	0		1.00 *
	Unprovoked	8	1		.22 *

* *p* values calculated directly by Fisher's exact treatment method (3, p. 96).

ruption of "free" child activity. Another factor, resulting from the conditions enumerated earlier, such as opportunity for social contacts, may have been the frequency of child-child aggressive episodes which tended to call forth adult interference. It is of interest to note that 76 per cent of all responses in the "resists direction" category were made by the three most aggressive children in group A.

There were significant differences between the groups in all physical techniques used in aggression toward peers except the "interferes in other's activity" category. The greatest difference between groups was in the greater number of provoked attacks exhibited by group B children. Fewer toys, less planned activity, and less emphasis on sharing of toys probably increased situations of conflict over toys in this group.

The difference between groups in the number of "unprovoked attack" responses directed toward peers was also significant. This technique was of particular interest since it had no apparent motive and was offensive rather than defensive. Jersild and Fite (5), in their study of child adjustment in the nursery school, pointed out that frequent offensive attacks were more likely to be associated with maladjustment. Data from both groups were examined to determine if this difference was typical of all children in both groups. It was found that in group B, one child, B_5, exhibited 26 per cent of all "unprovoked attack" responses in his group. B_5 also displayed the greatest total number of aggressive responses in this group. School records and teacher reports revealed that this child displayed behavior which led them to believe that he was somewhat retarded in his mental development. Further investigation, however, provided indicia of parental neglect. Very often it was necessary for the teachers to take this boy home because no one bothered to call for him in the evening. According to the records, the boy trembled and tended to become hysterical on such occasions. The mother had been legally reprimanded for neglecting her children.

In group A, 83 per cent of all "unprovoked attack" responses were made by the three children who showed the greatest number of total aggressions. A_2 was one of these children. The writer worked as an apprentice teacher in this nursery school approximately three months before observations for the present study were undertaken. At that time this child had considerable difficulty in finding a place in the group. He rejected all efforts of the teachers to guide him into group activities. Usually he spent most of his time in solitude, watching the others from a distance and frowning. He whined or cried readily. He appeared to be almost a different child while the observations for the present study were being made. He had a "pal." These two boys were among the oldest children in the group and veterans of the nursery school. They engaged in complex games requiring much imagination, such as pirates and space men. Intrusions from the other children were unwelcome. The teachers found it necessary to interrupt con-

flicts resulting from their attempts to exclude others from using the equipment they happened to be playing with. A great deal of "bullying" behavior was also exhibited by this child. A2 was the younger child in a family of two children. It may have been that he had little opportunity to assert himself in the home situation. The situation in the nursery school gave him an opportunity to play quite a different role. It is of interest to note that this child and his companion exhibited 56 per cent of the "threatens attack" responses in their group. This may well have been another means of maintaining status in the situation.

Another child in group A, A6, seemed to spend a great deal of time trying to force himself into play groups. Although he tended to be outstandingly verbal in his relationships with the teachers, he resorted mainly to physical force to further his social efforts with the children. If he was admitted into a group, he usually managed to tease one of the members and ended up having the rest of the group attacking him. He often displayed "hit and run" behavior. This boy was the older child in a family of two children. He had a sister aged about 18 months. The teacher's report indicated that there were some signs of sibling rivalry here. He particularly enjoyed teasing the little girl who rode to school each morning with him and his father. It may have been that he aggressed against her with such vigor because during the ride to school he had to share his father with her, a situation which he found difficult to cope with in his home.

Descriptions of three children, two in group A and one in group B, have revealed little or nothing common to all three subjects. Perhaps further and more detailed investigation would reveal some such factor or factors. The amount of aggression shown is probably not in itself an important factor. This behavior does become important when it is viewed as a means used by the child to achieve adjustment and maintain balance in his environment.

Threats of attack were made more often by group A. Such behavior did not ordinarily meet with the censure accorded actual physical attack in group A. As a result of failure to merit teacher discipline, this behavior become an "approved" means of expression. As shown earlier, A2 and his pal seemed to use it as a way of displaying potential power and thereby maintaining their positions as the oldest, biggest boys in the school—as the "bosses." Not only may threatening behavior have been a means of avoiding adult censure, it probably also provided a safe means of expression for the child who tended to fear retaliation from other children. B3 in group B was described by his teachers as "just beginning to stand up for his rights." This child displayed 24 per cent of all the "threatens attack" responses made in his group. He usually made his threats from a safe distance. If it appeared that his opponent would accept his challenge, he had a head start in running away.

Conclusions

The data of this study indicated that differences and similarities in patterns of aggression existed not only between the two groups but also among children within each group. The important influences differentiating groups seemed to be the more specific situational and environmental differences as found in the physical plant and equipment of the nursery schools, teacher-children ratio, teaching methods, and group structure. The influences of different home situations as might be found in so widely differing socio-economic groups as those used in the present study were also decisive factors. However, socio-economic status per se probably did not affect child behavior. It is more probable that the concomitant difference in parent-child relationships and other home factors were the differentiating variables.

Specific personal influences must be looked for if differences between individual children within a given group are to be understood. Not only the more specific variances in the factors mentioned above, but the differences in past experience, biological make-up, mental development, and the reactions of others to each child are important factors in individual patterns of aggression as are the influences of needs to express such behavior. These specific personal influences were referred to briefly in the discussions of individual subjects within the groups. However, the available case study material was inadequate for use other than to indicate the presence of such influences.

The similarities between these groups are, in many respects, as important as are the differences. The subjects in the present samples utilized those means of expressing aggression that were available to them. The environments of both groups contained approximately the same kinds of recipients toward which aggression could be directed such as toys, peers, and teachers. Use of these recipients of aggression was limited by teacher-enforced rules and the retaliation of members of the peer group. Thus, similar limitations, imposed not only on the direction of aggression but also on the techniques used to express aggression, were shared by both groups. Society's approval and disapproval of aggressive acts were brought into the situation by the teachers and children. In general, these may have been somewhat alike for both groups. The predominance in both groups of motor-spatial expressions of aggression, the infrequent ocurrence of teacher directed aggression, and relatively little verbalization of aggression toward objects may also have been augmented by similarities in physical, mental and social development found in children of preschool age.

This study points to the need for more careful analysis of the situational factors in behavior. Group composition, intragroup constellations, child-child contacts, direction methods, and school program must be studied and described in conjunction with responses in order to further understanding of child behavior in the nursery school.

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THE RELATION OF CERTAIN FAMILY CONSTELLATION CHARACTERISTICS AND THE ATTITUDES OF CHILDREN TOWARD ADULTS[1]

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PROBLEM AND PROCEDURES

The present study is a segment of a larger one dealing chiefly with the effect of sibling characteristics upon certain attitudes and generalized behaviors of young children. The investigation was motivated by the belief that not enough formal attention has been paid to the influence various sibling characteristics tend to have on children.

The independent variables upon which the present report focusses are sex of child subject, sex of sibling, ordinal position of child in his sibship, absolute difference in age between the child and his sibling. The set of dependent variables dealt with are the following attitudes of the child chiefly toward adults: friendliness to adults, affectionateness (to adults and children), degree to which adult sympathy and approval motivate, tendency to bid for adult attention and for help, tendency to tattle, obedience, and resistance (to adults and children).

The subjects of the study were 384 five- and six-year-old children from white, native-born, urban, intact, two-children families. The children were the biological offspring of both of the parents with whom they lived—i.e., no adopted or stepchildren were included in the study. Although usually only one member of a pair of sibs was studied, it was a condition of selection that both sibs should be free from gross physical and mental defect. Half of the group were boys; half, girls. The population was composed

[1] The investigation was supported in part by a grant from the National Institute of Mental Health, of the National Institutes of Health, Public Health Service, and in part by the Sonia Shankman Orthogenic School Research Fund, University of Chicago.

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of 24 matched groups. At each of three spacing levels—sibs separated in age by up to 24 months, by 25–48 months, and by 49–72 months—there were 8 sub-groups of 16 children each. The sub-groups were: boys with an older brother, boys with a younger brother, boys with an older sister, boys with a younger sister, girls with an older brother, girls with a younger brother, girls with an older sister and girls with a younger sister.

The groups were matched approximately, individual by individual, on the basis of age of child, socio-economic class of the child's father's occupation (12) and neighborhood of residence of the family (17). Ninety-eight

TABLE 1

MEANS AND SIGMAS OF THE AGES OF SUBJECTS AND SIBLINGS IN THE TWENTY-FOUR BASIC GROUPS

Description of Group				Age in Months					
Subject		Sibling		Subject		Sibling		Sibling Age Difference	
Sex	*Ordinal Position*	*Sex*	*N*	*Mean*	*Sigma*	*Mean*	*Sigma*	*Mean*	*Sigma*
				I. Sibling Age Difference 7–24 Months					
M	2	M	16	71.38	6.14	89.56	6.85	18.19	3.61
M	2	F	16	69.31	6.23	87.75	7.65	18.44	3.30
F	2	M	16	70.44	7.70	89.31	7.50	18.88	4.06
F	2	F	16	71.31	5.24	90.63	6.34	19.31	4.07
M	1	M	16	68.38	6.08	50.06	5.99	18.31	3.42
M	1	F	16	71.38	7.36	53.31	9.14	18.06	4.15
F	1	M	16	70.44	6.31	52.69	7.13	17.75	4.24
F	1	F	16	70.94	5.71	51.38	6.87	19.56	3.61
				II. Sibling Age Difference 25–48 Months					
M	2	M	16	70.88	6.07	105.63	6.77	34.75	6.70
M	2	F	16	71.81	6.33	108.88	8.82	37.06	6.35
F	2	M	16	72.25	6.51	107.69	10.02	35.44	5.84
F	2	F	16	72.81	5.42	107.94	8.42	35.13	6.26
M	1	M	16	71.06	6.55	35.00	8.31	36.06	6.58
M	1	F	16	70.88	6.04	32.31	8.82	38.56	6.92
F	1	M	16	71.75	7.19	37.88	11.60	33.88	7.09
F	1	F	16	72.44	5.56	37.56	6.27	34.88	6.02
				III. Sibling Age Difference 49–72 Months					
M	2	M	16	68.94	6.17	129.63	7.97	60.69	7.79
M	2	F	16	73.13	7.03	131.75	10.79	58.63	5.97
F	2	M	16	71.88	4.26	125.69	7.53	53.81	4.96
F	2	F	16	67.63	5.13	123.69	6.61	56.06	5.13
M	1	M	16	72.75	6.69	18.25	6.94	54.50	5.82
M	1	F	16	72.31	7.51	16.75	6.65	55.56	5.43
F	1	M	16	70.56	5.53	14.75	7.19	55.81	4.49
F	1	F	16	73.38	5.71	17.13	5.95	56.25	5.79

TABLE 2

DISTRIBUTION OF SUBJECTS IN TWENTY-FOUR BASIC GROUPS
(EACH WITH AN *N* OF 16)
IN TERMS OF FATHER'S OCCUPATION

Description of Group			Age Difference between Siblings 7 to 24 Months							Age Difference between Siblings 25 to 48 Months							Age Difference between Siblings 49 to 72 Months						
Subject Sex	Ordinal Position	Sibling Sex	Class of Father's Occupation I	II	III	V	VI	VII		I	II	III	V	VI	VII		I	II	III	V	VI	VII	
			Number of Subjects																				
M	2	M	5	..	4	7	..	..		5	3	4	3	..	1	..	5	4	6	..	1		
M	2	F	2	3	5	5	1	..		5	2	5	4	..	..		2	5	3	4	2	..	
F	2	M	3	3	3	7	..	..		5	5	2	2	2	..		3	5	4	4	..	..	
F	2	F	4	4	4	3	1	..		4	4	3	4	1	..		2	3	4	4	3	..	
M	1	M	4	1	5	4	2	..		6	2	2	6	..	..		5	4	4	2	1	..	
M	1	F	5	1	2	7	1	..		6	2	2	5	1	..		6	2	3	1	3	1	
F	1	M	3	2	5	6	..	..		5	5	1	3	2	..		2	4	4	4	1	1	
F	1	F	3	4	4	5	..	..		3	4	6	3	..	..		4	4	3	4	..	1	

TABLE 3

DISTRIBUTION OF SUBJECTS IN THE TWENTY-FOUR BASIC SUBGROUPS
(EACH WITH AN *N* OF 16)
IN TERMS OF NEIGHBORHOOD OF RESIDENCE

Description of Group			Age Difference between Siblings 7 to 24 Months						Age Difference between Siblings 25 to 48 Months						Age Difference between Siblings 49 to 72 Months					
Subject Sex	Ordinal Position	Sibling Sex	Socio-economic classification of neighborhood of residence 1	2	3	4	5		1	2	3	4	5		1	2	3	4	5	
			Number of Subjects																	
M	2	M	8	3	3	1	1		6	5	2	3	..		11	3	1	..	1	
M	2	F	8	3	..	3	2		10	1	4	..	1		9	2	1	4	..	
F	2	M	8	5	2	1	..		11	..	2	2	1		11	3	1	1	..	
F	2	F	11	3	..	2	..		8	2	2	4	..		7	4	2	2	1	
M	1	M	9	1	1	3	2		9	1	5	1	..		10	1	3	1	1	
M	1	F	9	4	3	..	..		8	1	5	2	..		8	1	5	2	..	
F	1	M	8	1	3	2	2		10	4	2	..	..		12	1	1	2	..	
F	1	F	6	6	1	2	1		8	2	5	1	..		14	..	..	1	1	

per cent of the children were matched within six months of age; 75 per cent, within four months. Ninety-three per cent were matched within one level on the occupational scale; 88 per cent, within one rank on the neighborhood scale. Level 4 of the occupation scale was omitted because this refers to the farm group and our subjects were all city children. Within the matching scheme we tried to make our selection of cases random, though we are sure we did not achieve this entirely.

If any of our variables are correlated with school entrance or time of school entrance, our method will not uncover these relationships, since we used as subjects only five- and six-year-olds who were in school. Our method of selecting subjects, too, did not control age of mother, because information on this item was not available to us. Hence it is possible the mothers of our first-borns are younger than those of our second-borns. Relatively more completed families are probably represented in those groups in which the sibs differ much in age, moreover, than in those in which the sibs are closely spaced. This may make for a difference in the home attitudes met by the children whose sibs are near in age from those whose sibs differ much—differences over and above those which given sibling spacings tend to create. The information concerning a subject's father's occupation was obtained from the school records. While it was often difficult to classify an occupation described, we think there are no systematic errors in our data because of this problem.

Most of the children were registered in the kindergarten or first grade of some public school in a large city or in one large private school. The children ranged in age from 61 to 84 months. This age group was chosen because it was assumed that family effects on general attitudes are relatively less diluted at the five- and six-year levels by the influence of other institutions than they are later. Substantial language skill makes communication with children of this age reasonably easy. In the main, too, subjects of five and six years have less inclination to cover up their feelings than do older children. It must be remembered, however, since sibling relations doubtless change with age—e.g., parents' behavior toward their children varies with the age of their offspring and this variation in behavior is correlated some with the patterns of sibling interaction—our results apply only to the age and cultural group studied.

Within limits the influence of such factors as social class and education of the parents are controlled by our experimental design. Since many teachers rated our subjects and the children rated by one teacher tended to be scattered widely through the groups, the influence of teacher standard and personality variables has also been minimized as a determinant of group differences. School standard has probably not been so well controlled, as the schools in which we worked did not contribute equally, nor even proportionately, to the sub-groups. Subjects representing sibling spacings that were less frequent (children with sib differing from them in age

by less than two years) were obtained in larger numbers from two very large elementary schools with many kindergartens and first grades. However, since the teachers, in the main, had had contact in their teaching years with children from many neighborhoods, we think the possible blurring of our results by differences in school standards will not be marked.

The teacher judges were each trained in a conference or two to make the ratings. Their judgments were based on no less than three months contact with the child judged and in most cases the contact was from six to nine months. We have every reason to believe that usually the judgments were carefully and discriminatingly made.

The raters, it should be noted, were all women teachers—authority figures to our subjects—and the behavior samples on which the teachers' judgments of the children were based were chiefly school behaviors. These facts must be taken into account when our results are being interpreted.

The rating scales employed were taken from the Fels Child Behavior Rating Scales (23) and from the California Behavior Inventory for Nursery School Children (7). The starred items in the tables are Fels Scale items; the other items are taken from the California Inventory. Since landmarks in the two scales are rather concretely specified, we believe this reduces somewhat the effect of inevitable differences in the concepts and standards of the judges. Some of the traits rated overlap considerably. This overlap was planned both to provide counter checks, since our judges were many and not research oriented, and to cover various common expressions of an attitude. The attitude dimensions covered chiefly are the friendly–hostile, dependent–independent, and submissive–dominant.

The rating scales the judges used were line or graphic scales, behavior descriptions being offered merely as landmarks. The line markings were first transmuted by us with the aid of a grid to scores on a nine-point scale. Because the rating distributions for the different traits were not completely normal and we wished to use an analysis of variance procedure to unravel our results, the ratings for each trait were normalized on the basis of 498 five- and six-year-old children, a population which included the 384 children used in this study. A score of four was taken as the population mean for each trait. The Bartlett Test for homogeneity of variance for the various sub-groups was applied and no evidence was obtained that the groups were drawn from populations with different variances. The error term used in the F was the residual variance. (See Table 8.)

Each child, in addition to being rated, was given the Children's Apperception Test (CAT) (3), and was interviewed for about 30 to 45 minutes concerning his relations with his sibling. A few questions were directed toward his relations with his parents. Only a very small segment of the interview and CAT data will be presented in this document (no tables, for instance), as it is planned to present them in detail elsewhere, and only very brief details concerning the methods used will be reported. The inter-

view procedure, while somewhat informal, called for a response from every child for each of a series of questions. When a question was asked, the child was presented with all possible categories of answers in order to avoid memory or suggestion biases. For instance, the child was asked, "Would you rather play with boys, with girls, or doesn't it make any difference?"

In the case of the CAT a count was made for each child of the number of his stories in which a mother figure occurred. A similar count was made for father figures. Counts were also made of the number of instances in the stories in which a mother figure acted pleasantly in relation to a child, or a child acted pleasantly in relation to a mother. Similar counts were made of unpleasant reactions. Test-retest (after two months) reliability for these two measures based on 50 cases was in the former case +.55; in the latter, +.54. For the father figure comparable counts were made and parallel reliability coefficients were +.44 and +.13. The low reliability in the latter case is probably due to the smallness of the counts. The pleasant reactions included in the count were giving service, protecting, instructing or doing pleasant things with the child, on the part of the parent; and obedience, dependency reactions, active help and expressions of affection, on the part of the child. The unpleasant types of reactions included punishing, restricting, and neglecting, on the part of the parent; and disobedience, deception, resistance and attack on the part of the child.

The independent variable, spacing, doubtless, needs to be singled out for special comment, even though all the other qualities or conditions with which we are dealing also represent complexes of interlocking biological and social forces. If the sib is older than the child studied, then it can be assumed that the former has been an influence throughout the whole of the latter's life. If, however, the sib is younger, then, besides differences in age and all that is implied in this, duration of influence of, or contact with, the sib may vary anywhere from six months (our arbitrary lower limit) to five years. It should also be pointed out, since we kept age of child constant from group to group, the age of the sibling for the various spacings was relatively constant also. If the sib were six years old and the child studied near twelve, the role of the sib might be very different from what we observed, even though in the two cases the spacing was the same. [See Lasko (15).] A child six years old with a sib six years younger may have essentially the characteristics of an only child. It should be stressed again, then, that the pattern of our findings may be a function chiefly of the age group we studied.

It is no wonder, in the light of the many complexities contained in our major variables, that not infrequently in our data the higher-order interactions are significant.

To order our discussion, let us first describe some of our major findings. Later we shall try to interpret the group differences observed. See Tables 4 to 7 for the group means and Table 8 for data on the analysis of variance.

TABLE 4

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: *FRIENDLINESS TO ADULTS** AND *AFFECTIONATENESS**

SUBGROUP			*Friendliness to Adults*				*Affectionateness*			
Subject		Sibling	AGE DIFFERENCE BETWEEN SIBLINGS IN MONTHS							
Sex	*Ordinal Position*	*Sex*	*7–24*	*25–48*	*49–72*	*Total*	*7–24*	*25–48*	*49–72*	*Total*
			SCORE MEANS				SCORE MEANS			
M	2	M	3.215	3.934	4.168	3.772	3.472	3.626	3.816	3.638
M	2	F	3.899	4.266	3.814	3.993	3.883	4.017	3.523	3.808
F	2	M	4.237	4.089	3.792	4.039	4.094	4.329	4.069	4.164
F	2	F	3.914	3.736	3.991	3.880	4.215	4.379	4.261	4.285
M	1	M	4.079	3.624	4.094	3.933	3.713	3.430	4.078	3.740
M	1	F	3.328	4.233	3.949	3.837	3.437	3.773	3.853	3.688
F	1	M	4.330	4.044	4.756	4.377	4.563	3.819	4.558	4.313
F	1	F	3.889	3.844	3.911	3.881	4.027	4.339	4.233	4.200
M	2	M or F	3.557	4.100	3.991	3.883	3.678	3.821	3.669	3.723
F	2	M or F	4.076	3.913	3.892	3.960	4.154	4.354	4.165	4.225
M	1	M or F	3.704	3.929	4.021	3.885	3.575	3.602	3.965	3.714
F	1	M or F	4.110	3.944	4.334	4.129	4.295	4.079	4.396	4.257
M or F	2	M	3.726	4.012	3.980	3.906	3.783	3.978	3.943	3.901
M or F	2	F	3.907	4.001	3.903	3.937	4.049	4.198	3.892	4.046
M or F	1	M	4.205	3.834	4.425	4.155	4.138	3.624	4.318	4.027
M or F	1	F	3.609	4.038	3.930	3.859	3.732	4.056	4.043	3.944
M	1 or 2	M	3.647	3.779	4.131	3.852	3.592	3.528	3.947	3.689
M	1 or 2	F	3.613	4.249	3.882	3.915	3.660	3.895	3.688	3.748
F	1 or 2	M	4.283	4.067	4.274	4.208	4.328	4.074	4.314	4.239
F	1 or 2	F	3.902	3.790	3.951	3.881	4.121	4.359	4.247	4.242
M	1 or 2	M or F	3.630	4.014	4.006	3.884	3.626	3.711	3.817	3.718
F	1 or 2	M or F	4.093	3.928	4.113	4.042	4.225	4.216	4.281	4.241
M or F	1 or 2	M	3.965	3.923	4.202	4.030	3.960	3.801	4.130	3.964
M or F	1 or 2	F	3.758	4.020	3.916	3.898	3.891	4.127	3.967	3.995
M or F	2	M or F	3.816	4.006	3.941	3.921	3.916	4.088	3.917	3.974
M or F	1	M or F	3.907	3.937	4.178	4.007	3.935	3.840	4.180	3.985
M or F	1 or 2	M or F	3.862	3.971	4.059	3.964	3.925	3.964	4.049	3.979

TABLE 5

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: *RESPONSIVENESS TO SYMPATHY AND APPROVAL FROM ADULTS* AND *TENDENCY TO BID FOR ADULT ATTENTION*

Subgroup			*Responsiveness to Sympathy and Approval from Adults*				*Tendency to Bid for Adult Attention*			
Subject		Sibling	Age difference between siblings in months							
Sex	*Ordinal Position*	*Sex*	*7–24*	*25–48*	*49–72*	*Total*	*7–24*	*25–48*	*49–72*	*Total*
			Score means				Score means			
M	2	M	3.780	4.146	4.182	4.036	3.767	4.366	4.163	4.099
M	2	F	3.687	4.106	3.819	3.871	4.025	3.930	4.076	4.010
F	2	M	3.970	4.274	3.884	4.043	3.528	4.210	4.056	3.931
F	2	F	4.189	4.209	4.140	4.179	4.256	3.903	3.911	4.023
M	1	M	3.949	3.115	3.913	3.659	4.099	3.816	3.900	3.938
M	1	F	3.706	3.853	3.959	3.839	3.507	4.274	3.966	3.916
F	1	M	4.121	3.843	4.655	4.207	3.947	3.982	4.448	4.125
F	1	F	3.691	3.995	3.911	3.866	3.919	4.250	3.949	4.039
M	2	M or F	3.733	4.126	4.001	3.953	3.896	4.148	4.120	4.055
F	2	M or F	4.080	4.242	4.012	4.111	3.892	4.056	3.983	3.977
M	1	M or F	3.827	3.484	3.936	3.749	3.803	4.045	3.933	3.927
F	1	M or F	3.906	3.919	4.283	4.036	3.933	4.116	4.198	4.082
M or F	2	M	3.875	4.210	4.033	4.039	3.648	4.288	4.109	4.015
M or F	2	F	3.938	4.157	3.980	4.025	4.141	3.916	3.994	4.017
M or F	1	M	4.035	3.479	4.284	3.933	4.023	3.899	4.174	4.032
M or F	1	F	3.698	3.924	3.935	3.852	3.713	4.262	3.958	3.978
M	1 or 2	M	3.864	3.630	4.048	3.847	3.933	4.091	4.032	4.018
M	1 or 2	F	3.696	3.979	3.889	3.855	3.766	4.102	4.021	3.963
F	1 or 2	M	4.046	4.059	4.270	4.125	3.738	4.096	4.252	4.028
F	1 or 2	F	3.940	4.124	4.025	4.030	4.088	4.076	3.930	4.031
M	1 or 2	M or F	3.780	3.805	3.968	3.851	3.849	4.097	4.026	3.991
F	1 or 2	M or F	3.993	4.080	4.148	4.074	3.913	4.086	4.091	4.030
M or F	1 or 2	M	3.955	3.845	4.159	3.986	3.835	4.093	4.142	4.023
M or F	1 or 2	F	3.818	4.041	3.957	3.939	3.927	4.089	3.976	3.997
M or F	2	M or F	3.907	4.184	4.006	4.032	3.894	4.102	4.052	4.016
M or F	1	M or F	3.867	3.702	4.110	3.893	3.868	4.080	4.066	4.005
M or F	1 or 2	M or F	3.887	3.943	4.058	3.962	3.881	4.091	4.059	4.010

TABLE 6

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: *TENDENCY TO APPEAL TO ADULTS FOR HELP* AND *TENDENCY TO TATTLE*

Subgroup: Subject Sex	Subject Ordinal Position	Sibling Sex	*Tendency to Appeal to Adults for Help* — Age difference between siblings in months: 7–24	25–48	49–72	Total	*Tendency to Tattle* — Age difference between siblings in months: 7–24	25–48	49–72	Total
			Score means				Score means			
M	2	M	3.916	4.246	4.111	4.091	3.898	3.869	4.374	4.047
M	2	F	4.049	3.820	4.112	3.994	3.776	3.926	3.997	3.900
F	2	M	4.079	3.767	3.922	3.923	3.882	3.973	3.955	3.937
F	2	F	4.301	3.969	3.949	4.073	4.601	3.960	3.928	4.163
M	1	M	3.989	3.781	3.923	3.898	3.931	3.768	4.017	3.905
M	1	F	3.733	4.169	4.200	4.034	3.784	4.344	4.276	4.135
F	1	M	4.093	3.798	4.523	4.138	4.428	3.767	4.347	4.181
F	1	F	3.798	4.251	4.222	4.090	3.756	4.197	3.911	3.955
M	2	M or F	3.983	4.033	4.111	4.042	3.837	3.898	4.185	3.973
F	2	M or F	4.190	3.868	3.936	3.998	4.241	3.967	3.942	4.050
M	1	M or F	3.861	3.975	4.062	3.966	3.858	4.056	4.146	4.020
F	1	M or F	3.945	4.025	4.372	4.114	4.092	3.982	4.129	4.068
M or F	2	M	3.997	4.007	4.016	4.007	3.890	3.921	4.164	3.992
M or F	2	F	4.175	3.895	4.031	4.033	4.188	3.943	3.963	4.031
M or F	1	M	4.041	3.789	4.223	4.018	4.179	3.767	4.182	4.043
M or F	1	F	3.765	4.210	4.211	4.062	3.770	4.271	4.093	4.045
M	1 or 2	M	3.952	4.013	4.017	3.994	3.914	3.818	4.195	3.976
M	1 or 2	F	3.891	3.994	4.156	4.014	3.780	4.135	4.136	4.017
F	1 or 2	M	4.086	3.783	4.222	4.030	4.155	3.870	4.151	4.059
F	1 or 2	F	4.049	4.110	4.086	4.082	4.178	4.078	3.920	4.059
M	1 or 2	M or F	3.922	4.004	4.086	4.004	3.847	3.977	4.166	3.997
F	1 or 2	M or F	4.067	3.946	4.154	4.056	4.167	3.974	4.035	4.059
M or F	1 or 2	M	4.019	3.898	4.120	4.012	4.035	3.844	4.173	4.017
M or F	1 or 2	F	3.970	4.052	4.121	4.048	3.979	4.107	4.028	4.038
M or F	2	M or F	4.086	3.951	4.023	4.020	4.039	3.932	4.063	4.012
M or F	1	M or F	3.903	4.000	4.217	4.040	3.975	4.019	4.138	4.044
M or F	1 or 2	M or F	3.994	3.975	4.120	4.030	4.007	3.976	4.101	4.028

TABLE 7

MEANS OF THE NORMALIZED RATINGS FOR THE VARIOUS SUBGROUPS: *OBEDIENCE** AND *TENDENCY TO RESIST*

SUBGROUP										
Subject		Sibling	*Obedience*				*Tendency to Resist*			
	Ordinal		AGE DIFFERENCE BETWEEN SIBLINGS IN MONTHS							
Sex	*Position*	*Sex*	*7–24*	*25–48*	*49–72*	*Total*	*7–24*	*25–48*	*49–72*	*Total*
			SCORE MEANS				SCORE MEANS			
M	2	M	3.597	3.665	3.888	3.717	4.161	4.161	3.904	4.108
M	2	F	4.060	3.651	3.721	3.811	4.242	4.074	3.983	4.100
F	2	M	4.341	4.335	4.200	4.292	3.579	3.885	4.032	3.832
F	2	F	4.088	3.841	4.245	4.058	3.742	4.236	4.109	4.029
M	1	M	4.053	3.430	4.311	3.931	4.234	4.689	3.908	4.277
M	1	F	3.825	3.476	3.782	3.694	4.053	4.384	4.221	4.219
F	1	M	3.874	3.998	4.034	3.968	4.019	4.099	4.340	4.153
F	1	F	3.839	3.701	4.056	3.865	3.994	4.038	3.656	3.896
M	2	M or F	3.828	3.658	3.804	3.764	4.202	4.166	3.943	4.104
F	2	M or F	4.214	4.088	4.223	4.175	3.660	4.060	4.070	3.930
M	1	M or F	3.939	3.453	4.047	3.813	4.143	4.536	4.064	4.248
F	1	M or F	3.856	3.849	4.045	3.917	4.007	4.069	3.998	4.024
M or F	2	M	3.970	4.000	4.044	4.004	3.870	4.071	3.968	3.970
M or F	2	F	4.074	3.746	3.983	3.934	3.992	4.155	4.046	4.064
M or F	1	M	3.963	3.714	4.173	3.950	4.127	4.394	4.124	4.215
M or F	1	F	3.832	3.589	3.919	3.780	4.023	4.211	3.939	4.058
M	1 or 2	M	3.825	3.548	4.099	3.824	4.198	4.473	3.906	4.192
M	1 or 2	F	3.943	3.563	3.752	3.753	4.147	4.229	4.102	4.159
F	1 or 2	M	4.008	4.166	4.117	4.130	3.799	3.992	4.186	3.992
F	1 or 2	F	3.963	3.771	4.150	3.962	3.868	4.137	3.883	3.963
M	1 or 2	M or F	3.884	3.556	3.926	3.788	4.173	4.351	4.004	4.176
F	1 or 2	M or F	4.035	3.969	4.134	4.046	3.833	4.064	4.034	3.977
M or F	1 or 2	M	3.966	3.857	4.108	3.977	3.998	4.232	4.046	4.092
M or F	1 or 2	F	3.953	3.667	3.951	3.857	4.008	4.183	3.992	4.061
M or F	2	M or F	4.021	3.873	4.013	3.969	3.931	4.113	4.207	4.017
M or F	1	M or F	3.898	3.651	4.046	3.865	4.075	4.302	4.031	4.136
M or F	1 or 2	M or F	3.960	3.762	4.030	3.917	4.003	4.208	4.019	4.077

In the interest of reducing the number of tables, the variance data for the total population only are presented. Since none of the relations with our independent variables of the trait, tendency to appeal to adults for help, are significant, no analysis of variance data for this trait are given.

With one degree of freedom, an *F* of 3.86 is needed for significance at the five per cent point and of 6.70 for significance at the one per cent point. With two degrees of freedom, the *F*'s necessary for significance at the five per cent and one per cent points are, respectively, 3.02 and 4.66. Only *F*'s that indicate significance or near significance are included in the tables. We shall discuss only relations significant at the five per cent point or better unless we indicate to the contrary.

Results

1. Girls with a sibling within two years older or younger were rated more friendly to adults by their teachers than were parallel groups of boys. The sex difference did not hold consistently at the other spacings.

2. Girls with a younger brother (up to six years younger) were judged more friendly to adults, more affectionate, and more responsive to adult sympathy and approval than were boys with a younger brother. The same relation obtained for girls with a slightly older brother (see Finding 1), but not when the age separation of the sibs was more than two years. As sib differences in age increased from medium to wide, the FM1[2] group increased in the extent to which they were judged to bid for help and attention and to tattle.

3. Girls with a younger brother were judged by their teachers to be more friendly to adults, as well as more responsive to adult approval, than were girls with a younger sister. A similar trend is suggested when the sib is older but the differences are not significant. However, girls with a brother less than two years older made fewer bids for attention than girls with a sister less than two years older, but the former group increased rapidly in attention seeking as sib spacing increased from close to medium.

4. In the main [exception MF1 (7-24)], those in opposite-sex pairs at the two closest spacings were rated more friendly to adults than were those in same-sex pairs. The difference is significant at the one per cent point, however, only in the group in which the sibs differ from two to four years in age.

5. Second-born males with a male sib were rated low in friendliness to adults when the sib was less than two years older but increased in friendliness and in the extent to which they bid for adult attention as the differ-

[2] In referring to our groups we shall indicate the sex of the child by the first letter, the sex of the sibling by the second letter, the ordinal position of the child by the unbracketed number and the spacing by the numbers in parentheses. Thus FM1 (7-24) refers to the first-born girls with a brother less than two years younger.

TABLE 8

ANALYSIS OF VARIANCE FOR VARIOUS TRAITS

Source of Variance	df	Friendliness to Adults: Sum of Squares	Friendliness to Adults: Estimate of Variance	Friendliness to Adults: F	Affectionateness: Sum of Squares	Affectionateness: Estimate of Variance	Affectionateness: F
Total	383	308.2686			334.3929		
Between groups	23	36.8546	1.6024		41.6604	1.8113	
Within groups	360	271.4140	.7539		292.7325	.8131	
Between replications	15	9.5632	.6375		3.1211	.2081	
Residual	345	261.8508	.7590		289.6114	.8395	
Between Variables:							
Between sex groups	1	2.5594	2.5594		24.6696	24.6696	29.38
Between sibling's sex groups	1	1.6211	1.6211		.0603	.0603	
Between ordinal-position groups	1	.7429	.7429		.0029	.0029	
Between spacing groups	2	2.5240	1.2620		1.0627	.5313	
First-order Interactions:							
Subject's sex—sibling's sex	1	3.5555	3.5555	4.68	.1772	.1772	
Subject's sex—ordinal position	1	.7081	.7081		.0024	.0024	
Subject's sex—spacing	2	4.8444	2.4222	3.19	.4037	.2018	
Sibling's sex—ordinal position	1	2.4849	2.4849		1.3884	1.3884	
Sibling's sex—spacing	2	2.7196	1.3598		3.9761	1.9881	
Ordinal position —spacing	2	1.4314	.7157		4.4819	2.2409	
Second-order Interactions:							
Subject's sex—sibling's sex—ordinal position	1	.0006	.0006		.0329	.0329	
Subject's sex—sibling's sex—spacing	2	1.7557	.8778		.9704	.4852	
Subject's sex—ordinal position—spacing	2	1.1248	.5624		.6816	.3408	
Sibling's sex—ordinal position—spacing	2	4.1589	2.0794		2.8740	1.4370	
Third-order Interaction:							
Subject's sex—sibling's sex—ordinal position —spacing	2	6.6233	3.3116	4.36	.8763	.4382	

TABLE 8 (*continued*)

ANALYSIS OF VARIANCE FOR VARIOUS TRAITS

RESPONSIVENESS TO SYMPATHY AND APPROVAL FROM ADULTS			TENDENCY TO BID FOR ADULT ATTENTION			TENDENCY TO TATTLE		
Sum of Squares	*Estimate of Variance*	*F*	*Sum of Squares*	*Estimate of Variance*	*F*	*Sum of Squares*	*Estimate of Variance*	*F*
352.1394			350.3992			330.2321		
30.1549	1.3111		19.8883	.8647		20.9599	.9113	
321.9845	.8944		330.5109	.9181		309.2722	.8591	
12.7446	.8496		12.7821	.8521		17.6310	1.1754	
309.2399	.8963		317.7288	.9210		291.6412	.8453	
4.7326	4.7326	5.28	.0707	.0707		.4531	.4531	
.2910	.2910		.0623	.0623		.0197	.0197	
2.0842	2.0842		.0107	.0107		.0643	.0643	
2.0256	1.0128		3.2996	1.6498		1.2214	.6107	
.2932	.2932		.0285	.0285		.0191	.0191	
.3946	.3946		1.0469	1.0469		.0061	.0061	
.1496	.0780		.2585	.1292		3.3711	1.6856	
.1588	.1588		.0718	.0718		.0613	.0613	
2.5588	1.2794		1.0882	.5441		2.6488	1.3244	
6.4778	3.2389	3.61	.0298	.0149		.3891	.1946	
4.0776	4.0776	4.55	.5111	.5111		3.8700	3.8700	4.58
.5575	.2788		2.9703	1.4852		.4558	.2279	
1.8775	.9388		.4516	.2258		.7229	.3614	
3.4473	1.7237		9.5387	4.7694	5.18	5.6124	2.8062	3.32
1.0288	.5144		.4496	.2248		2.0448	1.0224	

TABLE 8 (*continued*)

ANALYSIS OF VARIANCE FOR VARIOUS TRAITS

Source of Variance	*df*	Obedience			Tendency to Resist		
		Sum of Squares	*Estimate of Variance*	*F*	*Sum of Squares*	*Estimate of Variance*	*F*
Total	383	316.4523			322.7635		
Between groups	23	24.8752	1.0815		21.0126	.9136	
Within groups	360	291.5771	.8099		301.7509	.8382	
Between replications	15	10.5899	.7060		22.0751	1.4717	
Residual	345	280.9872	.8145		279.6758	.8107	
Between Variables:							
Between sex groups	1	5.8979	5.8979	7.24	3.7367	3.7367	4.61
Between sibling's sex groups	1	1.3078	1.3078		.1269	.1269	
Between ordinal-position groups	1	.9811	.9811		1.2513	1.2513	
Between spacing groups	2	4.7306	2.3653		3.0649	1.5324	
First-order Interactions:							
Subject's sex—sibling's sex	1	.3284	.3284		.0007	.0007	
Subject's sex—ordinal position	1	2.5660	2.5660		.0556	.0556	
Subject's sex—spacing	2	.9373	.4686		2.5367	1.2684	
Sibling's sex—ordinal position	1	.2086	.2086		1.6433	1.6433	
Sibling's sex—spacing	2	.5217	.2608		.1023	.5115	
Ordinal position —spacing	2	.9756	.4878		.4014	.2007	
Second-order Interactions:							
Subject's sex—sibling's sex—ordinal position	1	1.0742	1.0742		.9540	.9540	
Subject's sex—sibling's sex—spacing	2	3.1514	1.5757		3.3616	1.6808	
Subject's sex—ordinal position—spacing	2	.6691	.3346		2.5626	1.2813	
Sibling's sex—ordinal position—spacing	2	.7135	.3568		.0210	.0105	
Third-order Interaction:							
Subject's sex—sibling's sex—ordinal position —spacing	2	.8120	.4060		1.1936	.5968	

ence in age between them and their sib increased from under two to between two and four years. The difference is significant at between the five and ten per cent point.

6. A similar increase with sib spacing from the closest to medium was shown by boys with a younger sister in the traits: friendliness to adults, tendency to tattle and tendency to bid for adults' attention.

7. When the children had sibs close to them in age, boys with an older sister were judged more friendly to adults (see Finding 4) than boys with an older brother, while, when the sib was younger, the pattern was reversed. At the two-to-four-year spacing the trend described for second-borns was confirmed in pattern but was not marked enough to be judged significant.

8. First-borns with a male sib two to four years younger were less friendly to adults, less obedient, less responsive to adult approval (better than ten per cent point) and less inclined to tattle than the parallel group in which the brother was four to six years younger.

9. In the case of affectionateness(both to adults and children) the only significant relationship discovered was that with sex, girls being consistently judged more affectionate than boys.

10. Girls were also thought by their teachers to be more obedient than boys. The sex difference, while consistent, seems to be statistically significant only between groups at a spacing of two years or less. A good check is furnished by the observation that girls were rated less resistant than boys. Resistance, as we defined the trait, let us remind, covers uncooperativeness with both adults and children, though we suspect the teacher based her judgment chiefly on the child's reaction to her.

11. A marked difference between ordinal-position groups occurred in the trait, responsiveness to adult approval (second-borns being more responsive than first-borns), only when the sibs differed in age by two to four years. At this middle spacing, too, the boys with a younger sister were more responsive to adult approval than were boys with a younger brother (see Finding 4).

12. No significant relations were noted between the four independent variables being studied and the extent to which the children were thought by their teacher to ask for adult help. However, girls who had an older sister were judged to tattle less as sib spacing increased, whereas, in the case of boys with an older brother, the reverse obtained. Girls with a slightly older sister were thought to tattle more than those with a slightly younger one. Girls with a younger brother near in age tended to tattle more than girls with a younger sister near in age. Boys with a sister older by less than two years were judged to tattle less than girls with a sister older to the same degree.

13. The usual congruence in the pattern of our results suggests that we are truly dealing with the effects of sibling interaction. For example, if an increase in an attitude was associated with spacing in a given group,

e.g. boys with a younger sister, then the complemental but independent group, girls with an older brother, tended to show the opposite trend, though often not to a significant degree.

14. To summarize: Obedience, resistance, and affectionateness to adults and children, were observed to vary significantly only with child's sex. In the case of friendliness to adults the interaction between all four of our independent variables was significant. With respect to the trait, responsiveness to adult approval and sympathy, the interaction between ordinal position and spacing was significant. In the instance of the tendency to bid for adult attention, the interaction between sib's sex, ordinal position and spacing was significant. The inclination to appeal to adults for help showed no highly probable relationships to any of our independent variables. However, in the case of the tendency to tattle, a form of appeal for adult help perhaps, the second-order interactions of child's sex, sib's sex, and ordinal position and of sib's sex, ordinal position, and spacing were significant. Dependable differences occurred chiefly at the close spacing. Whether parents who have their children close together are a highly selected group we do not know.

Discussion

Some of the "significant" relationships we have reported may, of course, have occurred by chance—about five among the basic sub-group differences should be expected to—as we have, in the main, described only differences significant at the five per cent point or better. Since what may be chance results can not be judged, except in terms of the "unreasonableness" of the pattern, we shall try to account for most of our findings, complex as the patterns are.

The finding that girls are more affectionate, more obedient and less resistant than boys is consistent with the current belief and general finding that females tend to be more submissive, conforming, gentler, and less aggressive than males (1, 4, 5, 6, 8, 11, 16, 18, 20, 21, 22, 24, 29). These sex differences are probably due to both cultural and biological factors (2, 26).

The intricate relations between family constellation factors and friendliness to adults (third-order interaction is significant) are of more unique interest. Degree of friendliness to the teacher—this is what friendliness to adults means in our study, we think, because the only adult the teacher observed the child with to any extent was herself—is doubtless a function of such variables as the amount of satisfying experience the child has had at the hands of his mother or mother substitutes; the mother's experiences with and expectations of children; the degree to which the mother is believed to favor the sib over the child and the extent to which thwarted affection and approval-desiring, because of the mother's attitude, increases

drive and helps to generalize the attitude so that it will carry over to female authority figures such as the teacher; the amount of the child's self confidence (enough is needed to express friendliness); the degree to which the subject sees himself as like the teacher; and the extent to which similarity to the teacher can be interpreted as giving prestige; the strength of the identifications opposing that with the mother or teacher which have been made by the child. We could go on. But we feel sure that friendliness to adults is not necessarily motivated chiefly by unadulterated love. It might, for instance, be sparked by a desire for the favors the adult can bestow, sib rivalry and the desire to get a just share of attention.

That girls are consistently more friendly to their teachers than boys, chiefly only when the sib is a male and the girls are first-borns or the sib is only slightly older, we think may be attributable in part at least to jealousy because of the mother's real or supposed greater attachment to the brother. Sears *et al* (25) found that mothers, at least when the children are young, tend to favor or to be more lenient with their sons. If the girl feels this attitude on the part of the mother, since thwarting, within limits, increases drive, she may be expected to make more than the normal amount of effort to get the mother's approval and the habits directed toward winning affection and approval may generalize so that they carry over to mother figures like the teacher. If the girl, furthermore, is a first-born and, hence, has experienced consistently less warmth from the mother, as Lasko contends (15), as well as having had the displacement experience, she may on the basis of the same motivation and learning principles just stated, be expected to be more jealous and affection-seeking than a second-born. [See Dean (9).] The first-born girl with a brother, then, we should predict, as we discovered, would be more friendly to the teacher than a boy with a younger brother or a girl with a younger sister, constellations where sex differences could not have served as a differential determinant of the mother's attention and affection. Another principle stated by Gewirtz may also have some bearing on our finding. This author found that ignoring a child intensifies attention-seeking (10). Also in an unpublished study of Gewirtz it appeared that a child given a problem and ignored tended to imitate the adult, to do what the adult was doing. Thus, if the girls with a younger brother should relatively often try to imitate the teacher, as one might predict on the basis of Gewirtz's findings, this might be interpreted by the teacher as friendliness.

It is worthy of note that other ratings made by the teachers support our hypothesis that jealousy is at least part of the motivation of the "friendliness" to the teacher exhibited by a girl with a younger brother. The FM1 group, as compared with MM1's and FF1's, were judged as more jealous, competitive, aggressive, exhibitionistic, insistent on their rights, tenacious, curious, quarrelsome and critical. It is also significant that the FM1's of all the first-borns told the largest number of CAT stories which included a

mother figure. (Not all sub-group differences are significant, however.) This is the group, of all the first-borns, too, who described in their stories the largest number of mother-child and child-mother interactions or relations, both positive and negative. The difference in the count of negative interactions, however, is the one most consistent. The FM1's, in addition, most frequently told stories with a favoritism theme, described sibling quarrels and mentioned the advantages one character had in relation to another (that, for instance, one chicken in Picture I had a napkin while the other one didn't). The latter we have taken as evidence of a comparing set, envy or insecurity. Although the instances of the last three themes in the stories are so few the group differences are not reliable, we think the trends worth noting. The greater concern of the FM1's, in comparison to the FF1's, over mother-child relations in the stories suggests greater stress in the former group in the area of mother-child interaction. Also since the FM1's differ from the other first-borns chiefly in the amount of comment on negative mother-child relations, we think this is further evidence of stress and probably jealousy.

An identification mechanism we suspect may also be operative to make the FM1's so friendly to the teacher. It is our hunch that identification—a feeling of likeness and possibly an effort to be like—other things being equal, tends to occur more strongly the more similarities there are between the identifier and the identificant. The first-born girl probably tends to see herself and teacher as kindred souls because the girl classifies herself not only as female but also as among the "older folks," since she is older than her sib. Her mother, most likely, supports this identification by giving her responsibility [See Sears *et al* (25)] and treating her as if she were an older person. We believe, further, that the inclination of girls to identification with a woman teacher tends to be stronger if the sib is male rather than female because of the mechanism Gewirtz suggests and because the sex contrast favors comparison on the part of the girl—encourages her to consider the advantages and disadvantages of her own sex. It must bolster her morale not a little to realize that in one vital respect she is like both her mother, the most important person (to her) in her home (19, 27), and her teacher, the most important person in her sphere at school. At any rate, our hypothesis is that feeling herself of the teacher's ilk makes it easier for the girl to approach the teacher and be friendly. If we are correct in thinking that some of the motivation for "friendliness" to adults is sibling rivalry and sex rivalry, then it would follow that the friendliness should be strongest, as we noted, in opposite-sex pairs in which the sibs are close together in age.

The identification hypothesis set forth above receives some support from the fact that the FM1 group, *less* often in the interview than other groups of first-borns, expressed the belief that the mother sided against them in quarrels with the sib (this may, of course, be true or it may not) but with

relatively, though not significantly, greater frequency held the view the father took the sib's side. In fact, consistently *less* often than the FF1 group, the FM1's said they believed the father stood with them. That the concern, too, of the FM1's is more with the mother than with the sib is reflected, in our opinion, by the fact that less frequently than is noted, for instance, among second-borns the FM1's expressed the belief they would be happier without their sib, but no more often than the FF1 group did the FM1's voice this latter feeling. They did, however, with a *lesser* incidence than the FF1's say they wished to be the sib, to change places with the sib. Several expressed much scorn at the idea of changing sex. A strong female identification for the girl probably blurs some awareness of her jealousy of the mother's relation to the younger brother. Some children, however, described their feeling quite directly. One little girl, when asked if she would like to be her sib (a baby brother), said, "Yes I would; then I could yell my head off and my mamma would take care of nobody but me."

That girls, in spite of their likeness in sex to the teacher, are not consistently more friendly to her than are boys, except when the sibling spacing is close and/or the sib is a male, necessitates further explanation, if identification with adult females on the part of girls is a mechanism of importance. However, it should be remembered that identification in the sense of seeing oneself as like another, or even striving to be like another, we have contended need not be based on a harmonious relation. Feeling rejected or ignored by her own kind, as the girl might well do, if the mother is attentive to a younger brother, may lead to intensification of the girl's drive to get approval. If identification were all important in determining friendliness, which we do not think it is, we should expect the girl with a younger sister to be the most friendly to her teacher. Actually the latter group seems not to have been particularly mother- or teacher-centered. If anything, they were more father-centered. The FF1's most frequently of all groups expressed the belief the father sided with them in quarrels with the sib. With less conflict over her female identification (none as a result of her sib's sex) the girl with a younger sister probably often relieves her jealousy over the attention the mother gives the younger sister and the attention the father gives the mother by believing herself her father's favorite. It seems not too improbable she gets some support for this belief in that she may be the recipient of more attention from her father than her younger sister is, since fathers typically in our culture tend to busy themselves little with the care of babies and young children and this, especially if the baby does not present the lure of being male.

The fact the MM2 group rated particularly low in friendliness to adults, when spacing was close, but increased as the age difference between the sibs increased (Finding 5), calls for comment. We think it can be accounted for as follows: When the spacing is close, the younger of two boys, although bossed, abused, outstripped and dominated by the mother-resenting older

one, is, nevertheless, impressed and interested by the skill and activities of his slightly older sib and the latter's friends and tries to keep up. In their CAT stories our MM2's described sib activities in a favorable light with a frequency second only to that of the FF1 (7-24) group. They used the themes of sib fighting, and favoritism, as well as those dealing with advantageous differences between people with the lowest frequency. However, the general level of hositility expressed in their stories was relatively high. The MM2 (7-24), most frequently of all comparable close-spacing groups, expressed the desire in the interview to become the sib. The younger boy sees himself as somewhat like the sib, of similar age and same in sex. He identifies with the sib, looks up to him and wants to be like him. Since, too, his identification is a strong male one, it may affect negatively attachment to the mother or teacher. This negative attitude is doubtless reinforced by a feeling that the mother favors the older sib. Most frequently of all the groups of second-borns at the under-two-year spacing, for instance, the MM2's stated in the interview the belief the mother favored the sib. As examples of the younger boy's respect for his slightly older brother and of his own inferiority feeling, and possibly also as a reflection of his mother's attitude toward him, let me quote the remarks of a few MM2's. "Bill (older brother) does most of the good work. I never do and that's why I'd like to be Bill, if I could." "I would like to be Curt. Then I could beat him up." "I would like to be Tom cause he can read and write."

Other things being equal, children nearest in age, we suspect, will identify more with each other than those far apart in age do, because the community of the interests of the former is greater; children from same-sex sibling pairs, more than those from opposite-sex sibling pairs, because sex is such an important human trait; and second-borns more than first-borns, because people tend to want to be like the abler. The MM2 (7-24) group should, according to our hypothesis, show high sibling identification since the above-named favorable conditions obtain. Also the identification should oppose friendliness to the teacher because it is a male one and rooted in the belief the mother favors the sib. It is worthy of note that the MM2 (7-24) group, which was rated lowest in friendliness to adults—lower than MM1 (7-24) even—told a relatively small number of CAT stories in which a mother figure occurred and was judged low in bidding for adult attention as well as in obedience. It is congruent, too, with the male identification hypothesis that the MM2's at all spacings most frequently expressed in the interview a preference for a man, as opposed to a woman teacher in school, and held that the father usually sided with them when they quarrelled with the sib.

We should expect that the tendency to league with a male sib against the mother will be reduced in strength as the age difference between the sibs increases, since the common interests the sibs have are decreased by the difference in their maturity and since the mother probably interferes

more in sibling altercations to protect the younger against the older. [See Lasko (15).] When sibs are about the same age and are of the same sex, the mother, we suspect, less consistently defends one child against the other than when they differ in age considerably or are opposite in sex. Hence the MM2 (7-24)'s who, although they probably quarrel a great deal with their sibs because they are males (interview material supports this hunch), could be expected to get relatively little protection from the mother. These considerations may account for, on the part of the MM2's, (1) the increase with spacing in the number of mother figures in their CAT stories, (2) the increase with spacing not only in friendliness to the teacher but also in affectionateness, in tendency to tattle and to bid for adult attention and (3) the decrease in mentions of parallel and cooperative sibling activities in their CAT stories. It may also explain the decrease, on the part of the complemental MM1 group from the close to the middle spacing, in friendliness to adults, in responsiveness to adult approval and sympathy, and in obedience.

It is also relevant to the problem of the effect of spacing that the amount of contact sibs have with each other and the degree of disparity in their circle of friends affects not only the interactions they have with each other but also the relations they have with their parents. If the sib is much older, and especially if it is a boy, since boys are allowed more freedom to go about than are girls, he is out of the home much of the day and developing strong peer relations. Hence, he would be expected to compete less for parent attention than a sib near in age. The sib, if much older, then, is doubtless viewed as less of a direct threat than if only slightly older. Thus, the younger child with a much older sib may feel fairly secure because much of the time he spends with his mother is uncontested. He is the "baby" of the family and may receive much protection. If the sib is younger, on the other hand, it spends most of its time at home and is being administered to, to the degree to which it is younger. Although the baby sib may be no physical threat, the mother's attention to it may stimulate some jealousy in the older child. Casting the older child in the protector's role may merely result in ambivalence. While, however, jealousy of the baby may tend to alienate the first-born from the mother, some countering of this may be achieved (1) by the long years of pleasant relations the first child had with its mother before the sib arrived and even the self confidence built up while he was an only child, and (2) by the low interference of the baby with his possessions and activities. This balancing of forces may be responsible for the rather small and insignificant shift in the traits we are studying with increase in sibling spacing among first-borns.

The relatively low friendliness to adults of the boy with a slightly younger sister we find interesting. We have the hunch that this boy, feeling the importance of maleness challenged by his sister, who flaunts her femaleness, and by the mother (the two people with whom he spends most time), and

feeling rejected as a result of the displacement experience when the sib arrived, as well as fearful that the sister may catch up with him (girls mature more rapidly than boys so he may have a strong rival), is overwhelmed and depressed. Apropos of this hypothesis that the boy feels inferior and depressed, it is significant that our MF1's expressed with high frequency the view the mother sided against them in quarrels with the sib. It is noteworthy, too, that the MF1 (7-24) group were rated by their teachers particularly low in gregariousness, as well as in affectionateness, bidding for adult attention, activeness, talkativeness, competitiveness, aggressiveness and tenacity. The same boys, however, in their CAT stories concerned themselves with mother-child and child-mother, father-child and child-father relationships more than did the parallel MM1 group, for instance. This fact suggests that the low contact with people of group MF1 (7-24) is not due to lack of interest in adults. Let us also call attention to the fact that the complemental group, FM2 (7-24), as would be expected, were rated in contrast to the MF1 (7-24)'s as particularly friendly to adults and obedient.

Since the sister of the MF1's is quite young when the spacing is wider than two years, as contrasted with a sister near in age, she probably challenges the boy little. He had, moreover, opportunity by the time she arrived to establish himself relatively securely with his mother, i.e. was an only child for a long time. When the sib differs from him much in age, then the mood of the MF1's should be more buoyant than when the spacing is close. It is of interest that not only does the MF1 group increase in friendliness to adults with increase in sib spacing but the complemental FM2 group under the same conditions becomes less friendly. As the older brother of the FM2's becomes more secure and involved in many interesting activities outside of the home in which the girl can have no part, the latter, we think, may feel inferior. Her father and older brother give male stock a high value. Her female identification as well as appreciation of her mother are likely to be weakened. It is significant that our FM2's were judged particularly tomboyish, i.e., they copied their older brothers.

Since explanations have been offered for the low friendliness of MM2 (7-24) and of MF1 (7-24), there remains not much to be said about Finding 7, namely, that the MF and MM groups among first- and second-borns show opposite relations in friendliness to adults. MF2, at that, as has been explained, is not a particularly friendly group, though more friendly than MM2. MF1 was less friendly than MM1. Although some similar influences we think are at work in the MM and MF groups, the difference between them in friendliness to a mother figure we suspect is due to the fact that the boy in the MF2 constellation is favored by the mother over the girl, while in the MM2 constellation the boy is not favored over the older brother. While the MF1, like MF2, might be expected to be favored by the mother, the fact the former suffered displacement when the sib arrived,

may make them more mistrustful of her and of women generally than MF2's. They probably will feel jilted and will be more likely to attribute their new felt status to lacks in themselves, if the sib is different in sex from themselves than if the sib is of the same sex.

Finding 8, namely, that when the sib is a male, first-borns at the middle spacing are less friendly and responsive to adults, as well as less obedient, than are first-borns at the widest spacing, it is our hunch, can be attributed to the fact a brother two to four years younger is at that most engaging preschool age. He doubtless receives much attention and approval from the mother and other adults. [See Lasko (15).] On the other hand, he gets around on his own, in contrast to a baby, and interferes much, directly with the possessions and activities of the older child. Hence the protection and attention he receives may to the older child seem like favoritism, unearned, and may make the latter resentful toward the mother. This feeling may be intensified in an older sister by jealousy over attentions she thinks stem from the fact of the sib's being male. If the brother is a mere baby, on the other hand, as he would be if he were four to six years younger than the first-born, he would not be particularly frustrating directly to the older child, vigorous interaction and play together by the sibs being rather limited. The parents' attentions to the baby, too, may seem to the older child more appropriate than they would if the sib were somewhat older, because the baby's helplessness and inadequacies are very evident. The older child's relations with the mother, then, when the sib spacing is wide, may be more comfortable, since he feels less discriminated against. One might ask why the relations described seem to obtain only when the younger sib is a male. This condition results, we think, because of the mother's likely favoring of the male and the greater aggressiveness of the latter. A brother of preschool age may be more of a nuisance to his older sib than a sister because she tends to be less aggressive and active.

Much the same set of forces as obtains in the case of Finding 8 are in our opinion operative to produce Finding 11, namely, that at the middle spacing, our second-borns were more responsive to adult approval than the first-borns. A sib of preschool years is both particularly appealing to adults [see Lasko (15)] and at the same time often more of a nuisance than a companion to the older child of five or six. Hence the attentions shown him by adults are upsetting to the first-born and disturb the latter's relations with his parents. *Pari passu* the second-born, who continues in the role of the youngest in the family and who receives protection and petting at the expense of the first-born, should, as we noted, be more responsive to adults.

The finding that none of the independent variables in our study were significantly related to the trait labelled as a tendency to appeal for help, surprised us. It is possible, since the trait as defined in the rating scale is concerned with appealing for help in quarrels with children, that the teacher

was unable to rate this discriminatingly because she saw so few quarrels among the children. After all, kindergarteners and first-graders are on their good behavior usually when in school. Tattling, of course, may be motivated by a desire for help but may not be viewed as such by the teacher. At any rate, the tendency to tattle does show some relations with the independent variables in the study. We should expect the frequency of tattling to be a function of the relative strength of the sibs, the amount of vigorous interaction that occurs between them and the degree to which free expression of hostility is tabooed. The weaker sib, other things being equal, we predict would resort to tattling more frequently than the stronger because help is needed. This may be the explanation for the fact that girls with a slightly older sister were judged to tattle more than girls with a slightly younger sister. However, if vigorous attack is forbidden, as, for example, when the older child is forbidden to attack a considerably younger one or girls are disapproved for physical fighting, tattling may be a means of settling a difficulty. If contact is limited, as when spacing is wide, then tattling may be rare because altercations are infrequent. If sibs differ greatly in age, then the child with a considerably older one may be provoked less, too, than a child with a sib near in age because the older sib has learned how to handle many difficulties without attack. This we think accounts for the fact that tattling decreases as spacing increases, if the sibs are girls. That boys do not show the same pattern may be due to the greater aggressiveness and vigor of the boy. Even the much older brother's play with, or his attentions to, the younger are likely to be rough. The much younger male sib, too, who has had much protection may call readily for it in the form of tattling. Other things being equal, however, we should expect boys to tattle less than girls because they are better fighters. Since boys can be expected to be more provoking and to fight more than girls, who tend to be disapproved for this way of behaving, we may find here the explanation for the fact girls with a slightly younger brother tattled more than girls with a slightly younger sister.

Summary

The study is concerned with the relationship between the independent variables: sex of child subject, sex of subject's sibling, ordinal position of the subject in his sibship and age difference between the subject and his sibling up to six years, and the dependent variables, the teachers' ratings of the subjects on various attitudes toward adults. The ratings, hence, must be thought of as reflecting the school behavior of the children.

Twenty-four groups of five- and six-year-olds, matched in age and socio-economic status and composed of children from white, urban, intact, two-children families were the subjects of the study. In eight of the groups the child subjects differed from their siblings in age by less than two years; in

eight, by two to four years; and in eight by four to six years. The eight groups at each spacing level represent every possible child's-sex, sibling's-sex combination for each of two ordinal positions.

The major findings are as follows:

1. Girls were rated more affectionate, more obedient and less resistant than were boys.

2. No independent variable was significantly related to the tendency to ask for adult help in settling difficulties at school, especially quarrels with children.

3. Girls with a younger brother were judged more friendly to adults and more responsive to adult approval than were boys with a younger brother or girls with a younger sister. When the younger brother was a mere babe, the girls also made more bids for attention from adults than did the other groups just mentioned.

4. Girls with a sibling within two years older or younger were rated more friendly to adults than were boys. At other spacings no consistent sex difference appeared.

5. Those in opposite-sex sibling pairs at the two closest spacings were judged more friendly to adults than were those in same-sex pairs, though the differences were statistically significant only at the two- to four-year spacing.

6. Second-born males with a male sib near in age were low in friendliness to adults but increased in friendliness and in the extent to which they bid for adult attention, as the difference in age between them and their sib increased from under two to between four and six years. Boys with a brother under two years older were significantly less friendly than boys with a brother under two years younger.

7. Boys with a sister less than two years younger were also low in friendliness to adults but increased in the traits of friendliness and in the tendency to tattle and to bid for adult attention as the age difference between them and the sib increased from under two to two to four years. Boys with a slightly younger sister, too, were less friendly to adults and less inclined to bid for attention than were boys with a slightly older sister.

8. When the children had sibs close to them in age, boys with an older sister were rated more friendly to adults, more affectionate, and more obedient than boys with an older brother, while when the sib was younger the pattern was reversed.

9. First-borns with a male sib two to four years younger were less friendly to adults and responsive to their approval, less obedient and less inclined to tattle than parallel groups where the brother was four to six years younger.

10. The age difference between the child and his sib shows no correlation, in the case of girl-girl pairs, with friendliness to adults.

11. At the two- to four-year spacing second-borns were more responsive to adult approval than were first-borns.

Explanations of the various group differences are offered in terms of basic principles of learning and generalizing, basic sex differences, differences in sib behavior and values which result from differential attitudes of parents toward the sibs (as a result perhaps of sex, age and ordinal position differences), sex rivalry and jealousy between sibs, identification with the sibling, identification with the mother and teacher, sex identification, the number of common interests sibs in various constellations have and the amount of contact, the displacement experience of the first-born, the length of time the child had the mother's attention uncontested by a sib, and, lastly, differential cultural pressures on the two sexes and on children of different ages.

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PERSONALITY CHARACTERISTICS ASSOCIATED WITH FATHERS' ATTITUDES TOWARD CHILD-REARING[1]

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There is little information in the literature on the personality characteristics of parents with differing attitudes toward child-rearing. The available information up to 1946 has been summarized by Radke (14). In the more recent literature, Shoben (16) has demonstrated that the child-rearing attitudes expressed by mothers are related in a highly significant way to child adjustment—a finding supporting the usefulness of the attitude inventory as a technique for gathering information in this area. Harris, Gough, and Martin (8) with the same approach have found that the mothers of prejudiced children express child-rearing attitudes characterized by authoritarianism and "lack of tolerance of children's 'annoyance-value'." Shapiro (15), dealing with a rather heterogeneous population, observed that restrictive child-rearing attitudes were associated with conservative political opinions. And in still another study using the questionnaire approach, Mark (11) found the mothers of adult male schizophrenics expressed restrictive attitudes toward child behavior. These various findings, while important, are still too sparse a basis for an understanding of the parental personality as it impinges upon and interacts with the developing personality of the child.

The present study, in addition to its value as a "validity generalizing" research, can be seen as an extension of previous work in two respects. First, it provides information about fathers whereas previous investigations have been essentially limited to the study of mothers. Second and of greater importance, the present study provides more direct and more widely ranging information about the personality characteristics of the parents investigated than has usually been obtained. While previous research has demon-

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strated an association between child-rearing attitudes and other attitudes and performances, specification of the personological nature of the various parental groups being compared has been possible only by the indirect method of extrapolation. Because these extrapolations are a function of the personality theory held by the extrapolator, or are affected by his value system, a study of the *independently measured personality characteristics* of parent groups differing in attitude toward child-rearing would appear to be of particular value.

As part of a larger study of 100 military officers, an inventory of items reflecting "restrictiveness" versus "permissiveness" in child-rearing attitudes was administered to each subject. The present paper is a report of the personality characteristics differentiating between fathers in the group expressing preferences for restrictive and controlled rearing of children and fathers favoring a more permissive environment for the child.[2]

Subjects and Procedures

The 20 highest-scoring and the 20 lowest-scoring fathers on the Child-Rearing Attitude Scale were selected as our contrast groups and will be hereafter designated as the Restrictive and Permissive groups, respectively. The mean age of the Restrictive group was 35.1, with a range from 29 to 50. The group members had an average of 2.4 children each. The mean age of the Permissive group was 34.4, with a range from 28 to 50. They had fathered an average of 1.95 children each. The two groups enjoyed the same socio-economic status, perhaps best designated as middle-class. They did not differ significantly in terms of educational background although the mean level in school years for the Restrictive group was 12 and for the Permissive group, 13.5.

The attitude scale employed in this study is one used by Luft and Block in a previous study (9). The scale consists of 20 items and is similar to inventories used by other investigators (8, 11, 15, 16). Four categories of response are utilized for each item, "agree very much, very true for me"; "agree pretty much, true for me"; "disagree pretty much, not true for me"; and "disagree very much, not true at all for me." The items, together with the answers defined *a priori* as "Restrictive," indicated in parentheses, are listed below:

1. Children should not argue with their parents. (True)
2. When adults are entertaining, a child should "be seen but not heard." (True)
3. Firm and strict discipline makes for strong character in later life. (True)
4. Early weaning and toilet training is important in preparing a child for life. (True)

[2] This paper benefited greatly from the suggestions of Charles Hanley, Paul Petersen and Donald Woodworth.

5. For his own sake a child should be pressed to excel in school. (True)
6. A child should be permitted to have secrets from his parents. (False)
7. A lot of discipline is essential in the training of children. (True)
8. Children should not be allowed to leave their toys about the house. (True)
9. A good parent should never get angry at his children. (True)
10. In raising a child, one's feelings are a better guide than a carefully thought out set of rules. (False)
11. Jealousy among brothers and sisters is a very common thing. (False)
12. A parent should give his child the feeling that he (the parent) knows most everything. (True)
13. Parents should watch their children closely at all times. (True)
14. Children have a right to make a mess just for the fun of it. (False)
15. It is unwise for a parent to admit mistakes to his child. (True)
16. Sometimes a good parent dislikes his child. (False)
17. Children should be given a lot of freedom. (False)
18. Children need some of the natural meanness taken out of them. (True)
19. Children have a right to play with whomever they please. (False)
20. It is all right for a child to get dirty once in a while. (False)

Each of the subjects participated in an intensive three-day assessment involving a wide variety of individual and group situations. The procedures in which each subject performed ranged from charades through stress interviews to standardized psycho-dramatic situations. Eight staff psychologists observed the subjects run the gamut of procedures and at the end of assessment evaluated each subject by means of the Q-sort method of description. Seventy-six variables or items chosen as encompassing the personality domain were included in the Q-set. These data, combined into a composite, codify the impressions and evaluations of the eight staff psychologists with respect to each subject. Analysis of this universe of Q-ratings provides an important source of knowledge of the personality characteristics of the subjects, one which is independent of performance on the Child-Rearing Attitude Scale and other objective measures.

From the variegated tests and procedures administered to the subjects, 498 scores excluding Q-sort data were available for each officer. Of these, 122 measures correlated with the Child-Rearing Attitude Scale scores at or beyond the .05 level of significance. Because of the great number of significant relationships and because the psychological picture developed by these numerous data can be essentially portrayed by a few findings, this smaller task is attempted here. It is recognized that a somewhat arbitrary decision is involved in selecting significant variables for inclusion in this paper. However, a full set of the data is available elsewhere.[3] The writer believes

[3] A table giving data on all the variables significantly related to the Child-Rearing Attitude Scale has been deposited as Document number 4483 with the ADI Auxiliary Publications Project, Photoduplication Service, Library of Congress, Washington 25, D.C. A copy may be secured by citing the Document number and by remitting $1.25 for photoprints, or $1.25 for 35 mm. microfilm. Advance payment is required. Make checks or money orders payable to: Chief, Photoduplication Service, Library of Congress.

that the findings not here presented serve to support further but not change the implications of the data chosen for inclusion.

The objective measures reported upon in the present paper include the University of California Public Opinion Survey scales to measure ethnocentrism and predisposition toward fascism (1), a procedure tapping independence of judgment (5), and an intellectual measure—the Terman Concept Mastery Test.[4]

Results

The Q-items significantly characterizing the "Restrictive" and "Permissive" groups are listed below:

Q-Items Descriptive of the Restrictive Group

Is suggestible; overly responsive to other people's evaluations rather than his own. (.001)
Would become confused, disorganized and unadaptive under stress. (.001)
Is unable to make decisions without vacillation, hesitation or delay. (.01)
Is effeminate in his style and manner of behavior. (.01)
Over-controls his impulses; is inhibited; needlessly delays or denies gratification. (.01)
Conforming; tends to do the things that are prescribed. (.05)
Is stereotyped and unoriginal in his approach to problems. (.05)
Is unaware of his social stimulus value. (.05)
With respect to authority, is submissive, compliant and overly accepting. (.05)
Lacks social poise and presence; becomes rattled and upset in social situations. (.05)
Lacks confidence in his own ability. (.05)

Q-Items Descriptive of the Permissive Group

Is self-reliant; independent in judgment; able to think for himself. (.001)
Is sarcastic and cynical. (.01)
Communicates ideas clearly and effectively. (.01)
Is rebellious toward authority figures, rules and other constraints. (.01)
Takes an ascendant role in his relations with others. (.01)
Is persuasive; tends to win other people over to his point of view. (.01)
Is counteractive in the face of frustration. (.05)
Is verbally fluent; conversationally facile. (.05)
Is an effective leader. (.05)
Has high intellectual ability. (.05)
Has a good sense of humor. (.05)
Efficient, capable, able to mobilize resources easily and effectively; not bothered with work inhibitions. (.05)
Is frank and candid in his relations with others. (.05)

The Q-findings are abundant and clear in their implications. The men expressing restrictive attitudes toward child-rearing are perceived by competent observers as more submissive, suggestible, conforming, indecisive,

[4] We are indebted to Dr. Lewis M. Terman for permitting the use of this form of the Concept Mastery Test, which is as yet unpublished.

ineffectual and over-controlled. The men expressing permissive attitudes towards child-rearing are evaluated as more self-reliant, ascendant, rebellious toward authority figures, persuasive, counter-active and sarcastic.

With respect to intelligence as measured by the Terman Concept Mastery Test, the permissive group scores higher ($t = 2.32$; $p < .05$). The differences in intelligence between the groups, however, is not striking when it is remembered that we are dealing with groups widely separated along the Restrictive-Permissive continuum. Considerably more discriminating are the findings with regard to the Ethnocentrism Scale. Here the Restrictive and Permissive groups differ widely. The t-ratio is 3.91, significant well beyond the .001 level of confidence, the Restrictive group scoring higher. The Fascism Scale also differentiates strikingly between the two groups, the Restrictive group again scoring higher. The t-ratio of 3.59 is significant beyond the .001 level. It would appear that attitudinal variables are more closely related to the stratifying dimension than are intellectual measures.[5]

Of particular psychological interest for our analysis are the results of the independence of judgment experiment. This procedure, devised by Crutchfield (5) in extension of work by Asch (1), provides in operational terms a score reflecting tendency to conform to group opinion even in situations where the group is obviously (or not quite so obviously) wrong. A number of opportunities are provided the subject to stand by his own opinion or to conform to the group. His score is the number of times he yields to the group opinion. Thirteen members of the Restrictive group and nine members of the Permissive group experienced this procedure. The scores of the thirteen Restrictive individuals were 16, 11, 11, 11, 10, 10, 9, 9, 8, 8, 7, 6, 4. The yielding scores of the nine Permissive subjects were 2, 3, 3, 3, 4, 4, 5, 7, 8. By the Mann-Whitney test of significance (10) this difference is highly significant ($p < .001$).

Discussion

The findings are extremely cohesive and lead to a somewhat one-sided interpretation as to the "goodness" of being permissive and the "badness" of being restrictive—at least with reference to the particular population of subjects sampled. The picture which emerges of the fathers expressing restrictive attitudes toward child-rearing is almost a prototype of what has been variously labelled "the authoritarian personality" (1) or "the over-controller" (3, 4). These fathers are constricted, repressing, essentially dependent individuals with great feelings of personal inadequacy. Besides

[5] This point is more clearly evidenced by the application of partial correlation technique. For the sample of 100 officers, the correlation between Ethnocentrism and Restrictiveness is .40. When intelligence, as measured by the Terman Concept Mastery Test, is partialled out, the correlation between Ethnocentrism and Restrictiveness drops to .36, still significant at the .01 level of confidence. Similarly, the correlation of .50 between Fascism and Restrictiveness drops to a still highly significant .41 when intelligence is partialled out.

over-controlling their inner needs and tensions, they find it psychologically necessary to over-control the situations within their environment for which they hold responsibility. Their approach to child-rearing, while of particular importance for the forming of personality in the child, should be understood as but one of many manifestations of their basic personality structure.

In this sample the fathers expressing permissive attitudes appear to be assured, competently functioning individuals who are flexible without being fluid and stable without being rigid. They possess a feeling of personal integrity which lessens their susceptibility to threat. They are therefore able to be separate from the crowd when they cognitively perceive such a course of action to be indicated. From the standpoint of a definition of psychological health (13), the permissive fathers represent a more optimal level of personality integration than the restrictive fathers.

As with all findings, these results should be interpreted with some qualification. Until further verified and extended, the findings should be evaluated in terms of the population of men from which the sample was drawn. Our subjects were military officers who to a large extent were volunteers for service. Self-selection of a military career is undoubtedly related to pre-existing personality structure. Therefore, the findings within other populations may vary to the extent these populations differ from the present one.

As a second qualification, it should be noted that an extremely permissive viewpoint is probably not represented in the present sample. A good bit of inferential evidence exists in support of the notion that excessive permissiveness and inability to set limits for the child are also associated with a less than optimal parental personality, most likely of an under-controlling or other-directed nature. No evidence is available from the present study bearing on this latter hypothesis. Future research on this question will necessitate a refinement of the present attitude inventory in order to make it more discerning of differences between the appropriately-permissive approach to child-rearing and the excessively-permissive attitude. The scale as constituted does not appear to be sensitive at this end of the continuum.

An interesting linkage may be induced between the results of the present study and the findings of Frenkel-Brunswik in an investigation of prejudiced children (6). Frenkel-Brunswik reports that ethnocentric adolescents, who apparently have personality structures very much like the modal personality of our Restrictive group, describe the "perfect father" as disciplining, strict, punitive and a good provider. Unprejudiced children describe the "perfect father" as companionable and relaxed.

Frenkel-Brunswik calls attention to "the fact that discipline is experienced by the ethnocentric child significantly more often as threatening, traumatic, overwhelming and unintelligible, (a finding that) is in line with the type of home . . . usually offered this child. It is thus not surprising that the image of parents acquires for the prejudiced child a forbidding, threatening and distant quality. The lack of an internalized and individualized ap-

proach to the child on the part of the parents and the tendency to transmit mainly a set of fixed rules and customs may be considered as interfering with the development of a clear-cut personal identity and integration in the growing child (6, pp. 238-39)."

The present writer would hazard the interpretation that Frenkel-Brunswik is describing the adolescence of the person who later becomes a restrictive father. For the reasons she suggests, these adolescents— grown up and in turn fathers—still lack in themselves a perception of self-integrity and a differentiation of the social environment which can enable them to treat their own children differently from the way in which they had been treated by their own threatening fathers. In effect, the restrictive father, acting upon the residues of his own childhood anxieties, is revenging himself upon the wrong generation. This cycle of personality transmission is thus self-perpetuating but *self*-defeating.

Summary

An attitude inventory reflecting a restrictive versus a permissive orientation toward child-rearing was administered to a sample of military officers. A Restrictive group and a Permissive group of fathers were defined on the basis of their scores on the scale. When these two groups were compared with respect to a large number of independently measured personality attributes, it was found that Restrictive fathers tended to be constricted, submissive, suggestible individuals with little self-assurance. Permissive fathers were evaluated as self-reliant, ascendant, and functioning effectively. Certain limitations on generalization from these findings were discussed. The relationships observed were linked to studies of the authoritarian personality.

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THE RELATIONSHIP BETWEEN MATERNAL BEHAVIOR AND THE CHILD'S EARLY ADJUSTMENT TO NURSERY SCHOOL[1]

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This is a pragmatic study designed to develop a measure of the child's early adjustment to nursery school and to relate this measure to certain measures of maternal behavior.

There has been considerable difference of opinion as to when a child is ready to leave his mother for a few hours each day and benefit from group life in an educational setting. This has been especially true of children between two and three years of age. Determining the factors which influence a child's readiness for nursery school and predicting when a child is ready to make a satisfactory adjustment to school are real problems for those concerned with nursery school education.

From the school of psychoanalytic child psychology has come the point of view that the child is not ready to adapt to the group life of school until he has developed a sound love relationship with his mother. Though it is impossible to measure this relationship, it does seem possible to measure some of the factors contributing to it, specifically, behaviors indicating the mother's acceptance of her child. A survey of the research relating maternal attitudes and behavior to behavior of young children shows some evidence of relationship between maternal behavior and child behavior but is inconclusive and leaves the question of effect of maternal behavior on child behavior open.

PROBLEM

This problem was designed to investigate the relationship between maternal behavior and the early adjustment to nursery school of the 24 to 34 months old child. Younger preschool children were used as subjects because it seemed probable that more differences in early adjustment to school would occur for children of this age range than for older preschool children.

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[1] A study done at the Iowa Child Welfare Research Station, State University of Iowa, under the direction of Dr. Ruth Updegraff in partial fulfillment of the requirements for the degree of Doctor of Philosophy. A copy of the dissertation can be obtained from the library, State University of Iowa. The writer gratefully acknowledges her indebtedness to Dr. Ruth Updegraff for guidance throughout the study and to Dr. Charles Spiker for his suggestions and criticisms.

[2] Now at the College of Home Economics, University of Cincinnati.

It was hypothesized that there is a positive relationship between a mother's rating on direction of criticism, affectionateness, acceptance, and democracy of policy as rated on the Fels Parent Behavior Ratings and a child's early adjustment to nursery school.

To carry out this investigation, five separate steps were involved:

1. Developing an objective measure to evaluate the child's early adjustment to nursery school.

2. Evaluating the behavior of children between 24 and 34 months of age using the above-mentioned objective measure.

3. Measuring the behavior of mothers of these children in the areas of direction of criticism, affectionateness, acceptance, and democracy of policy using the Fels Parent Behavior Rating Scales.

4. Determining the relationship between measures of the child's early adjustment to school and teachers' subjective judgments of the child's adjustment at the end of six weeks of school attendance.

5. Determining the relationship between the measures of the mother's behavior and the measures of the child's behavior.

Four variables from the Fels Scales were used to measure maternal behavior in this research. Specifically these variables were: direction of criticism, affectionateness, acceptance, and democracy of policy. The Fels Scales were chosen because they had been used in other investigations, their reliability had been demonstrated, and research at Fels Institute indicated some evidence of a relationship with child behavior.

The scale devised by Kooker (6) was used as a model in constructing a measure of the child's early adjustment to school. Since this type of scale is described in behavioral terms, and since the ratings are done according to frequency of observed behavior, it seemed possible that two persons could make ratings with a high degree of reliability; by using the scaling technique of successive intervals with such a scale, it was possible to arrive at values for each item based on the judgments of a group of experts.

Adjustment to nursery school in this study was described as the capacity to explore freely the nursery school environment of people and things; this is only one of several descriptions of adjustment which could have been used. By using a broad concept of adjustment the measure could include behavior in many areas. The definition of adjustment was reached through judgments of a panel of specialists in early childhood education as to which behaviors were relevant to the child's early adjustment to school.

Procedure

Subjects

The subjects for this research were 38 children (19 boys and 19 girls) and their respective mothers. At the time of entrance to what constituted a special group in the Iowa Preschool Laboratories, the children were between 24 and 34 months of age. The children were chosen from the waiting

list for enrollment in Preschool Laboratories of the Iowa Child Welfare Research Station in order of registration and were generally from middle class families. Of the 38 families represented in the study, 14 of the fathers were associated with the State University of Iowa in a professional capacity and 9 were students at the University.

It would have been desirable to have controlled many variables by selecting children whose experiences both in and out of the home had been similar. It was possible, however, to control only a few and undoubtedly some of the most important were not controlled. Each child selected for the study had his father as well as his mother living with him in the home. None of the children in this study had physical handicaps, severe health problems, or showed signs of mental deficiency.

Measuring Maternal Behavior

A time interval of approximately 18 months had elapsed since the home rater had been employed at Fels Institute and had done ratings there. Since these ratings are dependent upon the precision and consistency of persons doing the ratings, it was considered advisable that this rater demonstrate her ability to train another person to do the ratings prior to making the ratings for this study. She therefore trained a research assistant, a candidate for a Ph.D. degree in Child Development. Since the presence of two visitors instead of one alters the home observation interview on which the ratings are based, the families visited during this preliminary work were not a part of the study.

In the first part of this training program, five homes were visited and practice ratings were made followed by a discussion of the ratings, which were not, however, included in the computation of reliability. Ten homes were next visited and the mothers were rated independently by the two raters. The correlations between ratings for the variables used in this research were .46, .79, .80, and .81.

Before the rater made any contact with a home, a letter was sent to each mother describing the research and inquiring as to the mother's interest in participating in the project. The writer then telephoned each mother to give any further information that the mother desired and to determine her willingness to participate and to have her child participate in the research.

Following an affirmative response, the home rater made an appointment to visit the home. The mother was asked to set a time when it would be possible to see her and the child together for part of the visit. The first visit, of about an hour in length, was primarily for the purpose of establishing rapport with the mother. The second visit, made within two weeks of the first, was approximately two hours in length (in a few cases illness or absence of the child from the home necessitated this interval being longer). Information gathered in these two home observation interviews served as a basis for making the ratings.

The rater carried on the home observation interview in a manner similar to that used at Fels Institute. Some questioning of the mother was done on these visits, but it was felt that encouraging the mother to talk about herself and her child would yield more valuable information for making the ratings than answers to direct questions. The rater encouraged the mothers to go on with their housework while she was visiting, but they varied considerably in the degree to which they gave their entire attention to the rater and the child.

The ratings were made after the visit had been completed for 10 children. The procedure for making the ratings was the same as that used at the Fels Institute except that the supplementary ratings of tolerance and variability were omitted. As a part of this procedure a brief clinical report for supplementary use only was written describing each visit. Except for one subject the ratings were made one to four months prior to the child's entrance to school.

Early School Adjustment Scale

In the absence of any research in the area of the child's early adjustment to nursery school it was necessary to develop a scale to evaluate the child's behavior in school. Rather than depend upon the judgment of one person, it was considered advisable to enlist the help of persons who had had considerable experience in working with young children in the nursery school and who were concerned with the needs of young children.

The preliminary list of 80 behavior items were formulated on the basis of the writer's experience in nursery school teaching and from readings and observation. From this list a panel of four judges—three head teachers in the Preschool Laboratories and a clinical psychologist oriented in the field of nursery school education—selected the items which they considered most pertinent to the child's early adjustment to nursery school.

Items which were checked by three out of four judges were selected for scaling. Of the 80 items given to the panel of judges, 54 reached the necessary criterion for scaling.

The items selected by the judges covered a wide range of behavior. Below are given several selected items.

1. Child *shows unprovoked physical aggression* toward another child.
   Child hits, pushes, scratches, or bites another child when the latter has neither shown aggression toward him nor interfered with his play.

16. Child on his *own initiative* begins an *activity*.
   Materials of various kinds are available, but no one suggests to the child the activity in which he starts to participate. Child begins using some of the equipment, asks for a turn if there are other children using the equipment, or does something that does not require equipment such as running or examining some object in the environment.

48. Child *leaves without hesitation* the parent who brought him to school. Child leaves parent as soon as the two of them arrive in the playroom or on the playground. Child may look in the direction of the parent after he has started to play, but he does not go to the parent.

After the items had been selected, it was necessary to determine the relative value of each item in the final scale. This was determined by a group of 20 judges chosen on the basis of their experience and leadership in the field of nursery school education and their interest in the clinical approach to the individual child. These judges came from a variety of places and were engaged in various phases of work in early childhood education. Thirteen of the judges were recognized leaders in the field of nursery school education. The others had been in the field of nursery school education a shorter period of time but had had considerable experience in nursery school teaching. In this latter group six of the judges had Master's degrees in preschool education and one was within two months of completing a Master's degree in preschool education.

Prior to mailing the items to the judges, a letter was sent to each judge describing the study as well as what would be involved in ranking the items. After a judge had indicated willingness to help with the scale, the items and directions for ranking them were mailed.

All the judges received three variations of each behavior item, each on a separate slip of paper; these variations depended on frequency of occurrence and were represented by the phrases "frequently," "fairly often," and "seldom." All items were assembled in random order before mailing to the judges and each judge received the items in exactly the same order.

In ranking the items the judges were asked to consider the degree of adjustment they predicted at the end of six weeks in school for a child showing a particular behavior in one of the three frequencies during his second and third weeks in school. The judges placed the items in eleven piles ranging from the items predicting the lowest to those predicting the highest degree of adjustment. They then placed each pile of items in a separate envelope and returned them to the writer.

After the rankings for each item at each frequency had been tabulated, the method of successive intervals, as described by Edwards (3) was used in scaling the items. This method of scaling is based on the assumption that judgments for each stimulus are normally distributed on the unknown psychological continuum.[3]

[3] To determine whether it was possible to make the assumption that the rankings of the judges for each item at each frequency were normally distributed, theoretical frequencies for each item were determined by subtracting the limits of each interval from the scale value, and finding the proportion of cases which should fall within that particular segment of the distribution. The observed frequencies were then subtracted from the theoretical frequencies. These discrepancies were small enough to make the assumption of normality of distribution possible. The mean absolute discrepancy between the theoretical and observed frequencies was .05.

The value for the lowest interval on the scale was arbitrarily placed at zero. Interval 11 could not be scaled according to this method. A value for this interval was estimated on the basis of the widths of the other intervals, and superimposed on the scale.

It was possible to compute a scale value for each item at each frequency. This value was computed by locating the point on the scale below which 50 per cent of the cases fell.

Evaluating Child Behavior

The scale described above was used in evaluating the behavior of the children in the study who were in two special nursery school groups for a period of six weeks each. The period of school attendance was arbitrarily set at six weeks because of the length of the summer session.

Although the nursery school situation was comparable to that for children regularly enrolled in the University of Iowa Preschool Laboratories, certain adjustments were made for the subjects in this research.

Twenty subjects attended school during the six weeks summer session (Group A) and the remaining 18 during the first six weeks of the fall semester (Group B). Group A met from 9:30 to 11:30 A.M.; Group B from 3:00 to 5:00 P.M. The groups met in the same building and used the same equipment. Since the weather was comparable during the time the two groups were in session, it was possible to carry out similar activities with both groups. The head teacher was constant for the two groups; the assistant teachers were different but were comparable in terms of training and experience.

Prior to observing and rating either group of subjects, the writer and another observer, a Ph.D. candidate in Child Development, practiced with the scale in rating two groups of children. These children who were regularly enrolled in the Preschool Laboratories were selected for observation because they were the youngest, or because they seemed the most immature, or because they had just started to school. Ratings were made and discussed for these children but the degree of reliability of these ratings was not determined.

As far as possible the observers kept a record of each time an item of behavior was observed for a particular child. It was possible to do this for items like showing "unprovoked aggression." It was not possible for items like "playing with other children" or "smiling." Particular attention was focused on one child at a time for a period of about six minutes, but every effort was made to note unusual behavior in the total group at all times.

The research subjects were observed according to the same method employed in the preliminary work with the scale. The children were observed during the entire school session of two hours from the sixth through the fifteenth day of school attendance. After five days of observation, the observers rated the children independently but did not compare the ratings.

This was done to focus attention during the last five days of observation on items of behavior or particular children which the observers felt less competent to rate, but all children were observed each day as described above.

The ratings used in this study were made after the tenth day of observation. The frequencies, "frequently," "fairly often," and "seldom," of the behavior items for each child were determined by using the group in which the child was observed as a frame of reference. All children in the group were rated in one item at a time. A score was obtained for each child on the basis of the frequency at which he was rated on each behavior item. This was done for each child on the ratings made by each observer.

On the basis of preliminary work with the scale, it became evident that it was impossible to rate all the children on some of the items due to their inapplicability at this age level or to unequal opportunities for observation. Six items did not discriminate among children because the behavior was rarely or never observed in any of the children.

The children were observed by the writer and another observer between the fifth and fifteenth days of school attendance and were then rated as to the frequency of observed behavior on each behavior item of the scale. Scores were obtained for each child by totaling the values a child obtained on the 44 items. The product moment correlation coefficients between scores obtained by the two raters were .92 for Group A and .91 for Group B.

To determine the reliability of each item, the procedure described by Guttman (5) was applied to the data obtained for each of the items. The Guttman procedure provides an estimate of the upper and lower bounds of item reliability. All 44 items of the scale which discriminated between children were above a lower bounds estimate of .52 and above an upper bounds estimate of .69. It appears then that this scale as used in this study was highly reliable.

In order to determine how closely the scale predicted the adjustment of the children at the end of six weeks in school, the head teacher and the assistant teacher who had a background in preschool education were asked to rate the children on a subjective basis as to how well the children had adjusted to school. Each child's name was placed on a separate card. The teachers were asked to arrange the cards so that the children would be ranked in the order of their adjustment to school at the end of six weeks in school.

Results

As described in the preceding section, two teachers independently ranked the children according to their subjective judgment as to the degree of adjustment the child showed at the end of six weeks in school, the ranks being then averaged for each child. The rank order correlations between the rankings of two teachers in Group A was .82 and for teachers in Group B was .72. The children were also ranked according to the scores they re-

ceived on the basis of the writer's ratings on the Early Adjustment to School Scale. The *rho* for Group A between these two sets of ranks was .74 and for group B .63. These are high enough to indicate that the population correlation of these ranks differs significantly from zero.

The ratings on the Fels Scales were done prior to the child's entrance to school by a rater who had nothing to do with the rating of the children on the Early Adjustment to School Scale; they were not inspected by the writer until after the ratings of the children had been completed.

Since the behavior of each child was compared with the behavior of all the children in his particular group for the ratings on early adjustment to

TABLE 1

CORRELATION BETWEEN MEASURES OF MATERNAL BEHAVIOR AND MEASURES OF CHILD'S EARLY ADJUSTMENT TO NURSERY SCHOOL

Maternal Behavior (Fels Scales)	Child Behavior (Early Adjustment to School Scale)		
	Group A $N = 20$	*Group B* $N = 18$	*Average**
	r	*r*	*r*
Direction of Criticism	.42	—.12	.18
Acceptance	.21	—.34	—.06
Affectionateness	.39	—.05	.19
Democracy of Policy	.17	—.09	.05

* Differences between *r*'s for two groups were not significant.

school, correlations between maternal behavior and child behavior were computed separately for Group A and Group B. For each group product-moment correlation coefficients were computed between the scores on each of the four variable of the Fels Scales and the scores on the Early Adjustment to School Scale.

The correlation coefficients were not high enough to reach significance for either group. They were in opposite directions for the two groups on all four variables of maternal behavior but the differences between correlations for the two groups were not significant. When the correlations for the two groups were combined to predict the population correlation, the highest correlation was .19.

Inspection of the data seemed to indicate the possibility of a curvilinear relationship. Accordingly, the data from the two groups were put together and a scatter diagram was prepared for the data on acceptance and direction of criticism—the two variables for which from inspection a curvilinear relationship seemed more likely. The *eta* for direction of criticism was .35

and was not significant. A simple analysis of variance was run on data grouped from the scatter diagram for data on the variable, direction of criticism. The resulting *F* ratio was less than 1.

Since the children were rated against only the other members of their particular group, it was impossible to compare the behavior of the two groups of children.

Rank order correlations were run between ranks of the mothers on the four variables on the Fels Ratings and the teachers' subjective ratings of the child's adjustment at the end of six weeks in school. These correlations showed a positive trend. Direction of criticism was significant beyond the

TABLE 2

RANK ORDER CORRELATIONS BETWEEN THE MEASURES OF MATERNAL BEHAVIOR AND THE COMBINED TEACHERS' RATINGS

Maternal Behavior (Fels Ratings)	Teachers' Ratings	
	Group A $N = 20$ *rho*	*Group B* $N = 17$ *rho*
Direction of Criticism	.54*	.34
Acceptance	.32	—.05
Affectionateness	.28	.14
Democracy of Policy	.08	.10

* One teacher for Group A had rated the mothers on the Fels Scales.

1 per cent level and the combined probabilities for the two groups also reached the 1 per cent level of significance. This finding merits further investigation but since it was necessary to use a crude test in evaluating significance, any conclusions based on this finding must be considered tentative.

Discussion

There are several possible sources of explanation for results of this study —the hypothesis, the methods used, and the extraneous variables.

It is possible that the hypothesis was incorrectly formulated. It may be that a mother's approval, acceptance, affectionateness, and democracy of policy as defined in this study are not positively related to the child's early adjustment to school. The research cited earlier, the experience of clinical psychologists, as well as the psychoanalytic literature indicate that such a conclusion would not be warranted without further research.

The Early Adjustment to School Scale was used for the first time in this study and therefore its usefulness must also be demonstrated by further

research. However, this study indicates that this scale can be used with a high degree of reliability. Also predictive value of the scale was demonstrated by the high correlation between the scale ratings and teachers' ratings of the child's adjustment at the end of six weeks in school. Consequently, it appears that the Early Adjustment to School Scale is a useful measure.

The measures of maternal behavior used in this study have been used in other studies with a moderate degree of reliability and some relationship with measures of child behavior has been shown. Although the between-rater reliability of the Fels Scales both in the work done at Fels Institute and in the preliminary work for this study was high, a higher degree of reliability would be desirable. (Correlation coefficients between ratings at Fels Institute for variables used in this study ranged between .56 and .88 and for preliminary work of this study between .46 and .81.)

The Fels research has indicated some evidence of relationships between Parent Behavior Ratings with measures of child behavior. Using a scale for measuring child behavior entirely different from that used in this study, the work of Baldwin (1, 2) and others has demonstrated a relationship between child behavior and clusters of variables on the Parent Behavior Rating Scales. The possible contamination of the ratings of the mother due to the child's presence during the home observation interview may account for this relationship, but it does not explain why the same relationship was not found in the present study.

There were, however, certain characteristics of the subjects of this research and certain changes in the way in which home observation interviews were done for making the ratings which may have influenced the results in this study. Most of the mothers in this research had had a college education and were somewhat sophisticated in a popularized version of child psychology. Possibly they were aware of what the rater considered appropriate behavior. None of the mothers in this study was rated at the top or bottom cue points for any of the variables of the Fels Scales. Neither of these cue points described what would be generally accepted as desirable maternal behavior. Also it may be that this particular sample of mothers did not show wide enough range of behavior to produce marked differences in child behavior.

The scheduling and length of home observation interviews for this study were not exactly the same as at Fels Institute because of the necessity of completing the research within a specified time interval. All home observations by the raters at Fels Institute are two hours in length. However at Fels Institute the first rating of a mother is not used in their research. Though the first visit of one hour in length in this study was planned to take the place of this first rating, the second rating was made so soon after the first that it is possible that the rater was biased by her first impression of the mother. It is possible also that a mother's behavior might be different

if she knew a series of visits would be made in her home rather than just two.

It appears, then, that the results obtained in this study could be attributed to some extent to the measures of maternal behavior. The reliability of the Fels Scales has been demonstrated to be only moderately high. The differences in the sample of mothers and children in this study as compared with those used in the Fels research, and the changes which had to be made in the Fels procedure for making the ratings possibly explain why the relationships with child behavior found in the Fels research were not found in this study.

As in any study of this type, there were a number of variables which probably affected the child's adjustment to school that were neither measured nor controlled. It is conceivable that if other variables (and it is possible only to speculate as to what those may be) had been measured, the child's adjustment to school could have been predicted on the basis of these measures plus the measures of maternal behavior. A total of 38 subjects is not large and hence it seems possible that randomization was not sufficient to prevent these extraneous variables from systematically influencing the results.

It is possible only to speculate as to what unmeasured factors may have influenced the child's early adjustment to school. The number of hours a child had previously been away from his mother and the number of times he had been left with strange adults and children probably influenced a child's behavior during his first few weeks in school. Depending upon the child's satisfaction or unhappiness at the time of these experiences, the child's adjustment to school could have been either facilitated or hindered by them.

Other speculated influences would include a variety of factors in the home environment. The father-child relationship could have been important. It is possible that children with older siblings in the home were less threatened by other children in school since they knew what to expect from other children and had learned some techniques for controlling other children. Children with very young siblings in the home could have interpreted being sent to school as a sign of rejection. Other factors possibly influencing the child's adjustment to school might have been the mother's feelings about sending the child to school or attitude of the other members of the family toward school.

It will be necessary to do more research to determine what factors influence the child's early adjustment to school and the relative importance of each of these factors. It appears to the writer that the results of this study can be explained on the basis of the measures of maternal behavior which were used and the lack of control or measurement of variables which also influenced the child's early adjustment to school. The hypothesis tested in this study still seems tenable, and the measure of child behavior, due to its

rater reliability and relationship with teachers' ratings, does not appear to account for the lack of relationship between maternal behavior and child behavior in this study.

Summary

The general aim of this study was to investigate the relationship between certain kinds of maternal behavior and the two-year-old child's early adjustment to school. Four variables from the Fels Parent Behavior Ratings were used as measures of maternal behavior. A measure was devised to evaluate the child's early adjustment to school.

For the measure of the child's early adjustment to school, a list of 80 behavior items was compiled. Fifty-four of these items were selected by a panel of judges (three nursery school teachers and a clinical psychologist) as pertinent to the child's early adjustment to school. A group of 20 judges (leaders in the field of nursery school education and nursery school teachers) sorted three variations of these items according to frequency into 11 groups ranging from those indicating the lowest degree of adjustment to those indicating the highest degree of adjustment if the particular behavior in question was exhibited at a certain frequency. The ranked items were scaled by the method of successive intervals..

The subjects for this study were 38 children (19 boys and 19 girls) between two and three years of age and their mothers. Mothers were rated by a trained and experienced rater on four variables of the Fels Parent Behavior Ratings on the basis of two home observation interviews. The four variables on which mothers were rated were direction of criticism, affectionateness, acceptance, and democracy of policy.

The children were divided into two groups for their nursery school experience, one group meeting in the morning during the summer session and one in the afternoon during the first part of the fall semester. The nursery school situation was kept as nearly as possible the same for both groups of children. Two persons observed the children during their second and third weeks in school and rated them on the Early Adjustment to School Scale at the end of this period.

The overall between-rater reliability for these ratings was .92 for Group A and .91 for Group B. Rank order correlations between the scale ratings and teachers' subjective ratings yielded a *rho* of .74 for Group A and .63 for Group B.

Correlations between measures of maternal behavior and measures of the child's early adjustment to school were low positive for Group A and low negative for Group B. Possible reasons for lack of substantiation of the hypothesis are given.

It was concluded that the usefulness of the Early Adjustment to School Scale was demonstrated by its high reliability and its relationship with

teachers' ratings of child adjustment at the end of six weeks in school. In spite of the results of this study, the hypothesis of a positive relationship between maternal behavior and the child's early adjustment to school still seems tenable.

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NINE QUARTERLY RORSCHACH RECORDS OF A YOUNG GIRL

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In a series of papers (1, 2, 3) the writer has presented the quarterly Rorschach protocols of his son from the second to seventh birthday. The rationale for this method of studying a single child as a contribution to genetic theory is stated as follows: "In recent years there has been developed a mode of observing the psychological growth of the child which emphasizes dynamic inferences from the youngster's behavior in his biosocial field—the projective method (1, p. 61)." And again, "The data gleaned from these (Rorschach) records supplement the type of information obtainable by observation methods. . . . This should lead to descriptions and inferences of unsophisticated dynamics of childhood life rather than applying adult inferences. . . . (1, p. 69)."

The writer has obtained nine quarterly Rorschach records from his daughter, Ruth, for the period from 2 years, 6 months, to 4 years, 3 months. The records for the six months prior to 2.5 years are not too fruitful, consisting mostly of single words and color-naming with unintelligible syllables liberally interspersed throughout.[1]

THE PROTOCOLS

1. January 27, 1953: 2 years, 6 months

I. 1) Looks like (hereafter *ll*) a book; this is chalk on it.
II. 1) Chalk—wed (*red*) and black chalk.
III. 1) This is wed (*red*) chalk and black chalk.
IV. 1) Black chalk—*ll* a book, black chalk on it.
V. 1) This is black chalk.
VI. 1) Black chalk.
VII. 1) Black . . . white chalk, and a fire on it (*turns to upturned plate VIII inadvertantly exposed*) over here, that fire.
VIII. 1) Pink chalk, not black chalk. This is a mouse going up to the top of the man's house, he's a funny man.
IX. 1) Pink, no more.
X. 1) Pink fire (*red D*).

[1] See Jeff's first three protocols (1, pp. 62-66) for a similarity in the general nature of the responses.

In this record the magic key solution is quite prominent. The use of color-bound adjectives is an indication of the outwardness of the child's developing relation to her external environment. Further inkling of the imaginative potential may be seen in the response to card VIII—her accounting for the popular interpretation and weaving it into an acceptable event. Interpretively the youngster is showing an appreciation for the existence of objective reality and is handling herself quite well as she attempts to assimilate these "outside-of-me" events into her limited apperceptive mass. The first response is fairly good for one of her age. Furthermore, a bit of the family cultural climate seems to have seeped into her perception—the "*ll* a book . . ." response to the first plate does reflect the bookish characteristic of her home. Note the limited knowledge of color: black, white, red, and pink. The last discloses a beginning sensitivity to color discrimination not too frequently found in a child her age and even less often verbalized by a young boy.[2] The protocol is unscorable but the approach is essentially a *whole* one: percepts encompass the total design with no regards for details. However, plate VIII does reveal she is dealing with familiar material (the "mouse" stems from her familiarity with picturebook and television cartoon animals, including the popular mice characters) to which she was exposed with her brother. She sees nothing contradictory in her "mouse-into-a-man's-house" story because her notion of these animals is a healthy one for her age and was induced by the accepting climate of TV cartoons and the absence of negative emotional experiences with mice. Verbalization is somewhat meager but there is no need for extensive wordage. The problems before her, the inkblots, have been adequately solved.

2. April 27, 1953: 2 years, 9 months

I. 1) *ll* a clown. (*Inquiry:* 'Cause he's be black.)
II. 1) A church. (*Inquiry:* 'Cause look at the red, this is colored like a church.)
III. 1) Merry go round.
IV. 1) Superman. (*Inquiry:* Always flies.)
V. 1) Supergirl. (*Inquiry:* 'Cause she always flies.)
VI. 1) A butterfly. (*Inquiry: top D.*) *ll* a snake. (*Unclear*)
VII. 1) Clown. (*Inquiry:* 'Cause it is.)
VIII. 1) Pink (*points to D1*). 2) Green. 3) A doll's shoe (*D1*).
IX. 1) A doll's carriage, it's for girls.
X. 1) It's a other doll carriage, here's the doll. (*Inquiry: D1*)

The admixture of childish disregard for reality and a growing use of experience as a basis for her associations to the inkblots become evident in

[2] This does not mean that the child of 2.5 years cannot differentiate among colors; it does mean that color naming appears later than color discrimination.

this protocol. The farfetched and repetitive "church" concept giving way to the "merry go round" bears this out. This is followed by "Superman" and "Supergirl" responses to plates IV and V. This is her attachment to the Friday afternoon TV program, a devotion she shares with her brother. A crystallizing independent self-concept is not too difficult to deduce from the "Supergirl" concept. She now sees herself quite definitely as a girl.[3]

At 2 years, 6 months, Ruth is a young lady with definite interests related to the toys made available to her by parents who have felt that a girl should play with dolls. Her attention span is adequately sustained through all 10 cards. The greater portion of responses are *W* and are not too well related to reality. However, the percepts are more definite than those given in previous records. There is an expansion of her venturesomeness into the world of everyday experience from which is emerging a beginning of self-identification as a little girl. Her attitudes are also becoming more evident. Ties to reality are gradually developing despite the general framework of puerile fantasy.

At 3 years of age Ruth shows just a little improvement in vocabulary usage and in the complexity of expressed ideas. The approach is still one of dealing with total situations and inadequate attention to details. Repetition is still a characteristic trait of perception and a means of coping with a new problem. The one significant advance is the increase in her sharpness of perception, a reflection of her growing awareness of the social pressures about her and her assimilation of these introjected ideas. This is seen in the three popular responses including the usual human in plate III. None of the animals are threatening, rather they are gentle ones and attractive because of their colors. The unfolding of a warm attachment to the social world is evident. The fact-fantasy organization of her experiences is present but her horizon has broadened to include celestial bodies—the "moon."

At 3 years, 3 months, the protocol discloses a marked change from previous productivity. Her responses are elaborate with color and action well integrated. It is during this period of her life that she enjoys the companionship of her older brother and his young friends. They play together a great deal and indulge in games calling for action and imagination. This finds its way into her perceptions. In plate II the response to the card is: "*ll* elephants with some red and fighting." This is followed in the next plate by "*ll* two monkeys with more red and 'splosion. These two animals, monkeys, want to fight, so they do. And these are two good men-monkeys." The movement determinants, *FM* and *m*, in these percepts are the equivalent of their more stable counterpart in older children and adults, *M*, and emphasize the imaginative tolerance for change. All of these

[3] This is more than amply borne out by her attitudes and her behavior in the family setting.

are necessary ingredients if the child is to develop intellectually and imaginatively. (This fuller maturity requires a cognitive appreciation of tolerance for what is over and above objective reality.)

The capacity for differentiation among the various aspects of a situation and seeing other than imposed and self-organized *gestalten*, for penetrating a total configuration and to separate out the subunits emerges at 3 years, 6 months, for Ruth and is reflected in a highly productive protocol. Of the 14 responses, four are good discrete detail concepts and are unrelated to the *W*-perceptions. The associations are readily verbalized and elaborated to give cause and effect pictures, i.e., to account for the percept as perceived. The adjectival use of color is very appropriate and reveals an awareness of esthetic pleasure. The social relations will probably be warm and healthy because of her emerging creativity, tolerance for reality-flexibility, and controlled emotionality. The substitute-humans are not threatening, thus indicating a rather positive and wholesome interpretation of the role of adult figures in her life.

3. April 27, 1954: 3 years, 9 months

I.	1) *ll* a bird. (*Inquiry:* All black. *Wings?* He's just standing up, he's really a man, in black. *Standing up?* Well, a man stands up.)	W FC′ A P (D M H P)
II.	1) Black and red *ll* blood, different color blood.	W C, C′ Bl
	2) These two blacks *ll* an elephant.	D F, FC′ A P
III.	1) *ll* a bow. (*Inquiry:* It's a red one.)	D FC Clo. P
	2) and two little men. (*Inquiry:* Man's other leg off. The man is in the cardboard, they're alive, made by crayon.)	D F, M H P
	3) Two pieces of blood.	D C Bl
IV.	1) *ll* feet and no head, here's hands. (*Inquiry: Points out parts.* Man, and man has no head. Someone was going to take his head off so he took it off himself.)	W F Hd
V.	1) A little mother bird, has a head, flying already and has long ears.	W FM A P
VI.	1) This *ll* a crawling bug. (*Inquiry:* It has a long thing. Head. There are feet.)	W FM A
VII.	1) *ll* a round chain but part of it is off.	W F Obj
VIII.	1) *ll* another crawling bug.	W FM A
	2) Two cute little bunnies crawling on it.	D FM A P
IX.	1) *ll* another crawling bug.	D FM A
	2) Two babies' heads.	D F Hd P
X.	1) *ll* a finger painting. (*Inquiry:* All different color things on it.)	W CF Ptg

The critical ability is emerging rather well. At the same time Ruth is a small child sharing her life with small child's thoughts. There is a greater leaning toward a realistic view of the stimuli in her world. Emotionality is appropriately childish but singularly that of an intellectually advanced youngster. Vocabulary and conceptualizing are beyond that of a

child only 3 years, 9 months. Note that the accelerated pace is seen in all areas of intellectual and emotional life. The same is true of her physical development.

This progress is much more evident in the four-year record. A summary is presented:

Total R—17	M—1	H—4	P—6; 35%
W—4; 20%	FM—2	A—9	M:Sum C—1:1.5
D—13; 80%	F—11	Ad—1	FM+m:Fc+c+C'
	F+%—91%	Obj—1	—2:0
	F%—64%	Clo—1	
	C—1	N—1	

First, the concepts are scorable, there is sufficient clarity of perception and appropriateness of conceptualizing ability to permit an inquiry. This is significant of growth and of adequate feeling of responsibility to be willing to account for her productivity.

Second, emotionality is of the childish variety yet not out of hand—a grown up youngster with the proper admixture of imagination, emotionality and tie to reality.

Third, fact and fantasy still are part of her everyday living. She is interested in people yet has not completely left that wonderful phase of childhood living—the animal-populated world.

Fourth, Ruth can approach problems from the "larger" point of view—the next significant development should be in the appreciation for the smaller and still essential facets of an event.

4. October 27, 1954: 4 years, 3 months

The last protocol is presented for comparison with the first as a dramatic record of the development that has taken place in two years:

I. 1) *ll* two doggies looking each way. (*Inquiry: Points to parts.* They're stuck together.) W FM A

II. 1) I see two little elephants with noses stuck together and feet in blood and they put their stockings on their head, red stockings. W FM, FC, C A P

III. 1) I see . . . two little mens, part of the mens all broked off. (*Inquiry:* This part of it. *P detail* It's a broken leg. *Men?* They have a leg and they have a face, round head, like a man.) D F H P

IV. 1) *ll* a monster with no head. W F (Hd)

V. 1) I see a pelican with no eyes, just a head. It's turned around so I don't see even if it had eyes. (*Inquiry:* It's flying, the wings are out. *Demonstrates*) W FM A P

VI. 1) It's a bug. (*Inquiry:* It don't *ll* it's moving.) W F A

VII. 1) That *ll* two little chickens with feathers on top of their heads, on two little heads. W F A

VIII. 1) This *ll* just . . . like a colored bug with two little pink rats on both sides. W FC A (D FC A P)

IX. 1) That *ll* a little fish. D FC— A (*green D*)
2) *ll* a lion with two little chickens on the bottom. (*Inquiry: Rejects lion* It *ll* a chicken. (*pink D*) D F— A
3) And two little music mans. (*Inquiry: Orange D* Have those top hats, these little things. *dd ll* music horns.) D F H

X. 1) *ll* two spiders. D F A P
2) The green things are a chain. D CF Obj
3) A little blue ribbon. D FC Clo

Total R—14	FM—3	H—1	P—4+1; 28%
W—7; 50%	F—7	Hd—2	M:Sum C—0:2.5
D—7; 50%	F+%—86%	A—9+1	FM+m:Fc+c+C′
	F%—50%	Obj—1	—3:0
	FC—3+2	Clo—1	
	CF—1		
	C—0+1		

In the first place the protocol reveals the unevenness of function when the child is tested over a period of time and when widely separated behavior segments are secured. This is to be expected in almost any subject, let alone a young, growing, not fully self-identified human organism. Secondly, there do appear several perseverated responses that seem to become quite automatic concepts that linger over the years. This same phenomenon was also observed in the longitudinal Rorschach performance of her brother, Jeff. This raises the question of the extent to which some of the unique and lower age level concepts seen in adults are actually the automatic and unthinking (currently) ideas that have perseverated through the years and have little or no application in the present situation. They may represent vestiges of Allport's functional autonomy.

Certain basic developmental trends are beginning to take shape—the ability to differentiate the parts that make up at total situation; the increase in creativity and imagination; an extratensive mode of relating to her environment; control over emotionality without inhibitory influence toward making warm personal ties; a recognition and use of healthy reality interpretation without undue fantasying; social conformity; and a calm, not-too-threatened outlook on life.

Summary and Conclusions

An analysis of nine quarterly Rorschach protocols for a young girl between the ages of 2 years, 6 months, and 4 years, 3 months has been presented. Progress in verbal and conceptualizing ability, closer ties to

reality with growth from the post-infantile to the childhood world, and the changes in emotionality are paraded before the psychologist in these records.

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PERSONALITY ROLES IN THE LARGE FAMILY

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Whenever a number of people are in continuing association with each other, differences in the part that each plays in the common life manifest themselves. These may be differences in the tasks that each performs, or differences in other contributions which each makes to the group. Sociologists use the word *role* to designate the specialized function of the individual member of a group. Perhaps the simplest way to define role is to say that it involves the exercise of a person's relative group position, attributed to him by his fellows in their reciprocal relationships.

Such specialization of role obviously occurs within the family. Emile Durkheim, in his work on the division of labor in society, emphasizes this as a natural and inevitable process in the life of the family, beginning very early in the lives of siblings on the basis of age, sex, order of birth, and age differential, as well as of innate characteristics.[1] While most obvious on the side of functional specialization, it is not so confined, but comes to include the whole range of behavior. Thus, very early in life, a child acquires a special personality role in the group life of the family, which comes to be recognized by the family members as well as by other persons subsequently.

This paper is a report of personality roles within families each of which had six or more living children. It is part of a six-year study of 100 large families, with a total of 879 living children, made under the auspices of the William T. Carter Foundation at the University of Pennsylvania.

Information on the life of these families was obtained from persons reared in them. The methods utilized in the gathering of the information included directed questionnaires, nondirective interviews, and written family-life-history documents. In 60 of the families, both parents were native-born whites of native-born white parentage; in another 17 families,

[1] George Simpson, *Emile Durkheim on the Division of Labor in Society* (New York: The Macmillan Co., 1933), p. 123.

they were native-born whites of foreign or mixed parentage; in 10, both parents were foreign born; 8 were Negro; and in 5 families, the father was foreign born and the mother was native born. By religious preference, 26 families were Roman Catholic; 8 were Jewish; 3 were mixed Catholic and Protestant; and the remainder were Protestant. By type of community, most of the families were reared in small-town, village, or farm communities. Twenty-four, however, were reared in either New York, Philadelphia, or Brooklyn.

One of the questions included in the study concerned the specialization of sibling roles as seen through the eyes of other sibling informants. It was stressed to them that the study was particularly interested in securing information on this point, and they were asked to describe brothers and sisters as fully as possible as personality types. Informants in 64 families characterized all siblings in a manner considered satisfactory, and this information is the basis of the analysis that follows.

In searching for the most effective way of organizing and presenting the characterizations furnished by the informants, the concept of a composite picture has been utilized. That is, the 64 groups of siblings have been imposed upon each other, with the result that eight general types appear. These eight types are not found in each family. Some families do not have eight siblings. Other families have two or more of the same general types. These eight types must be considered as representative of the study as a whole.

1. Every family identifies at least one of its siblings as the responsible type, the one that is looked up to, the one that assumes direction or supervision of the other sibling, or renders service to them. The word *responsible* is the one used most frequently in referring to these siblings, but in some cases such words as dutiful, bossy, drudge, leader, helpful, martinet, and policeman are also used. These seem to identify chiefly the way in which this position of responsibility was exercised.

Male siblings who were thus described usually were older sons, who aided the parents and acted as father surrogates in the father's absence. The same applies to female siblings of this type. Most often these responsible ones were the oldest children of their sex, but to this there were numerous exceptions. The oldest son might not be able or inclined to measure up to such a position of responsibility, he might be mother's favorite and be excused from such cares, or he might be in constant conflict with his father and from earliest days solve this problem by being away from home as much as possible. Similarly the oldest daughter might be irresponsible, or be papa's pet, or be in continual conflict with the mother. In these and other cases the post of responsibility falls to those lower in the birth order.

The most clearly and frequently identified of all these responsible siblings is the oldest or older daughter who becomes in varying degrees a second mother to the younger children. Here is the type of early responsibility,

of dutiful help to the parents, of service to the younger children, and of sacrifice of one or two of the older siblings. Large families weigh heavily on the shoulders of the older children.

2. The second most frequently identified is the popular, sociable, well-liked sibling. This quite often is the second born, or the one that follows in order of birth the responsible sibling: It seems in many cases as if, finding the post of responsibility pre-empted, he or she (and most often it is a he) proceeds to gain recognition and self-esteem through personal charm rather than personal power. Some excerpts will help to identify this type.

> *Second son.* He is a good mixer. Gets along well with people. Is very likable. Is sweet to the rest of us to the point of being henpecked.
>
> *Second son.* He has developed the most normal personality of all of us. He is best liked by our parents and by the other children.
>
> *Second daughter.* The attractive one. Most popular one among all of us. Interested in the personal appearance of all of us. She would wash your hair and fix you up to go out if mother was busy.
>
> *Second son.* He was the one with *the* personality. He was much admired by all of us.
>
> *Second son.* Everybody likes him. He is very sociable. He gets along well with everyone. He is good looking, and always knows the right thing to say and do and wear.

3. The third is the socially ambitious type. The term *social butterfly* is often used by the informants in describing this type. The picture is quite clear. Whereas the preceding type was described chiefly in terms of appeal to the other siblings, this third group directed its social interests mostly to persons outside of the family. Most of these siblings were women, mostly third, fourth, or fifth in the order of birth. A few brief descriptions follow:

> *Daughter. Fifth born.* Social interests at the expense of all other things. Could always dig up a date. Was the life of the party. Was never left out of anything. Could turn her hand to many things and do them well.
>
> *Daughter. Third born.* She was the social butterfly of the family. The only one of the girls who had a debut. Instead of staying at home in the summer she must be off to summer camps. Had a wedding that knocked a hole in all of her brothers' pockets.
>
> *Daughter. Fifth born.* She wanted to be the social butterfly in the family. All she ever wanted to do was to primp and go out. But mama wouldn't stand for it. We all have to work, even the older boys washed their overalls when we were growing up.

4. Fourth of the types by order of frequency were the studious ones. These apparently sought and found recognition within the family and outside by doing well in school, or withdrew from sibling activities to find surcease in books. Male and female siblings appear in about equal propor-

tions, and are usually described as quiet, hard working, and, in some cases, as methodical. Some excerpts of descriptions follow.

> *Daughter. Sixth born.* She was the smart one. She had a high IQ, and an excellent academic record. She was preoccupied with her books.
>
> *Son. Third born.* He was always very quiet and studious. A lover of books, with intellectual interests.
>
> *Son. Third born.* He was the scholarly one. He learned quickly. His interests were altogether intellectual. He was the first of the family to graduate from college.
>
> *Daughter. Second born.* She is the student of the family. Responsible, but yet lacking something, or what is not lacking manifesting itself in a curious way. She seems the sweet type but really is not. She has the least social grace of all the children.

5. The self-centered isolate appears as the fifth of the types identified by our informants—this in spite of all that has been said about the socializing effects of large family living. Descriptions of this type vary from references to their secretiveness to stubborn antisocial attitudes toward the other siblings and/or life. In some instances the chief fact noted is an unwillingness to participate in family activities; in others, a withdrawal from the family and an organization of life on an away-from-home basis. Brief descriptions of this type follow.

> *Son. Sixth born.* He always was uncooperative. He would not eat nor would he work. He was bright enough, but was at war with the world. He never worked out his adjustments until he got out of college, and he avoided his family until we got a car.
>
> *Son. Fourth born.* He was stubborn, bull-headed, dogmatic, with very set ideas. I was never quite sure that he believed what he said, or whether he just wanted to be ornery.
>
> *Son. Seventh born.* He always had to have his own way. He was stubborn and antisocial. He did not like school. He spent much time by himself. He seemed always to be in rebellion against his family and withdrew from it. He is a policeman now.
>
> *Son. Fifth born.* Always a lone wolf. Very independent. Feels less responsibility for the family than any other. He takes life very seriously.

These family isolates constitute a challenging group that merit further study. Enough has been revealed in the present study to show that most of them are quite understandable when viewed in terms of specific family situations which confronted them. Three basic types of such situations appear with frequency. One is order of birth, with special reference to age and sex differentials. Examples are cases where the other siblings pair off on the basis of age or sex or both, leaving an odd one to shift alone. Or there may be a boy born after two girls and succeeded by three more. Or

there may be a considerable time span separating the isolate from the others. Second are the cases where the isolate sibling is interested in some activity, like sports, in which the others are not. Finally, there are the cases where conflict between parent and child develops early, so that the child's rebellion against the father develops in time into a larger pattern of rebellion.

6. Many large families report at least one member who is largely or wholly irresponsible. These siblings seem to withdraw from the family life but in ways that differ from the family isolates. They do not withdraw their physical presence or their participation in group activities; they simply sit back, as it were, and withdraw from the responsibilities which the others accept. A few illustrations will suffice.

> *Daughter. First born.* Extremely irresponsible. She is our gadabout. The most immature of the whole family. Neither is her husband mature. She is definitely the flighty type. It is fortunate that her sister, a year younger, was a responsible person, for she left everything to this younger sister.
>
> *Son. Third born.* He is irresponsible and always was. A drifter. He was bright but it was a job to get him through school. He finally got to the university but was so irresponsible that father withdrew him after a year.
>
> *Daughter. Fourth born.* She was cowed and timid and irresponsible. It was all father's fault. He had a high temper, completely dominated the family. The older boys who might have given him a battle left home early to go to war.

7. There were the siblings who were not well. Some of these had physical defects, sufficient to set them apart and to create special problems; some had to carry the burden of chronic or long-drawn-out illness; and still others seemed hypochondriacal, and/or learned to utilize their illness to gain them special favors or to justify their failures.

> *Daughter. Third born.* She was seriously ill for a time when she was a child, and received a great amount of attention which was soothing to her and which she has continued to demand ever since. She sulks frequently, and complains and feels sorry for herself.
>
> *Son. Fourth born.* We had very little that we were made to do. We didn't even make our own beds. My younger brother was sick a good deal of the time, and was always being protected, and urged to eat this and that.
>
> *Daughter. Fourth born.* She never liked to do housework. She was considered frail, so she never did as much as the rest of us. Mother treated her and one of the boys who once sprained his back very leniently.
>
> *Daughter. Second born.* She was a premature baby. As she grew older, she was nervous because of a thyroid condition. Her eyes were not good either. She never took an outside job, but stayed at home and helps mother.

8. Not many large families escape having a "spoiled" sibling. Most often this is the last-born child, although there are cases, like that of Joseph of

Old Testament fame, where it is the second youngest. What apparently happens in this latter type of case is that the parents, and particularly the mother, conceive of the second-last one as the last one, and proceed to "spoil" that one. Then, perhaps several years later, perchance as an accident, another child is born. Possibly the mother resents the coming of this last child, and having started to spoil the second-last one, continues to do so. This was pointed out as particularly true in two of our families where it was common knowledge among all the other siblings that the mothers resented the coming of the last born and doted unduly (in one case, the rest of her life) upon the second youngest.

There are several "angles" to the problem of the position of the terminal or last-born child. The older children tend to emphasize the fact that the youngest ones are "spoiled," that discipline is less rigorous for them, that they have fewer responsibilities thrust upon them, and that they enjoy more opportunities. Our older born informants clearly reveal these attitudes.

> *Girl. Last born.* She was protected and babied and never expected to participate fully until most of the others left home.
>
> *Boy. Last born.* All the older children had to submit to his demands. He was known as the baby, and mother referred to him as the baby until her dying day.
>
> *Girl. Last born.* She was lazier than the rest of us and shirked all kinds of work. She loved to play and daydream, and because of her age was always petted and pampered and allowed to have her own way.
>
> *Girl. Last born.* She was the baby. Very much spoiled but with a pleasing personality. She got more than any of the others. Everybody babied and spoiled her. Mother gave in to her more than to the other children. She was cute, everybody recognized it, and she worked at it. She was the teacher's pet all through high school.
>
> *Son. Last born.* "The baby." The older siblings resented the parents' protectiveness toward him and consequently tried to control him more. The older children thought he was "spoiled," and it caused considerable conflict in the family. He continued to confide in me, but had no time for the others. He is sensitive but covers up by a care-free "I don't care" attitude.

When the last born are enabled to speak for themselves they present other aspects of the problem. One complains, for example, that he never had a new toy, but inherited an accumulation of used, repaired, rebuilt, and just plain unrepaired toys. A second one points out that he wore hand-me-down clothes until he was fully grown. A third says that he was always at the end of the line along which each passed the buck to the younger. "Always you are the kid," says still another, "you are the younger one. The older ones boss you, but you have no one to pass it on to. It is a frustrating experience." Finally, there is the youngest, a son, with a succession of older sisters, who writes: "Always I was the boy, to be made over; yet all the sisters determined that I should not be spoiled. I was subjected to a great

deal of criticism and dominance and bossing. Sisters were not only older, but stronger and wiser and smarter. Thus I accepted early in childhood a role of submission, which has continued down to the present time. I think I accepted this role, and do so now, because of my experience in early childhood."

There are isolated references to other kinds of siblings—the scapegoat, the tomboy, the weak one, the perfectionist, the silent one, the black sheep one, the handy one—but such references are few in number, and the eight types set forth in the preceding pages cover the range of the generally identified personality patterns.

These eight types fall into an intriguing sequence, suggesting a theory of specialized personality roles and behavior patterns in the large family that is breath-taking in the challenging leads which it opens up. Keeping in mind always the constancy of the individual child's drive for recognition and status, let us consider the eight types in the order of their presentation, which is essentially the order of frequency of identification. The first ones to appear develop patterns of responsibility because they are first and are followed by younger and more helpless siblings. The next ones, finding this role pre-empted, seek recognition by making themselves agreeable. They do not seek to wrest control from the older children; they compete with it or supplement it with their personal charms. The next children, finding these two roles pre-empted, turn from the family to the community. They become social-minded and socially ambitious. Those that follow in turn have to turn to a new avenue of achievement. These turn to the schools. They become the scholars, the studious ones, the sophisticates, the intellectuals. Finding all of these avenues under active cultivation, the next child withdraws from competition. This is the family isolate. Or he may not withdraw his presence, only his sense of responsibility—these are the irresponsible ones, who participate but let others hold the bag. Both the isolate and the irresponsible are patterns of withdrawal and often of failure to find a satisfactory avenue of achievement. The physically defective, the sickly, and those who pretend to be—they have their excuse for relative failure to find their roles, if they wish to use it. Finally, at the end of the line is the terminal child, either pampered into relative ineffectiveness or wearing the "magic boots" to overtake the older ones.

This, to be sure, is a theoretical sequence suggested by the composite of all the characterizations. Actually the order may begin with any type in any particular family, and it frequently does. The more fundamental point involved is that in a large family each child's drive for recognition is expressed in a specialized role related to the roles already pre-empted, and that only a limited number of choices are open in the average family. Putting the matter another way, each sibling in a large family develops his specialized role on the basis of, and in relation to, the roles which have already been established. No sibling wishes to be the exact counterpart of

another, so that choices and possibilities are limited with each succeeding birth.

There is, too, the pressure of expectations. The first born faces only the expectation of his parents; the second born, that of the parents and the first born; the third born, that of the parents and the first two siblings; and so on with each succeeding birth. As time goes on, the expectations of the siblings, based on their own roles and experiences, accumulate and become increasingly effective and may outweigh completely those of the parents.

Summary

1. Specialization of role occurs whenever a number of people are in continuing association with each other. The family is such a group.

2. The larger the group, the greater the degree and diversity of specialization of role. The large family therefore is a particularly important form of family in this connection.

3. A composite of specialized roles in 64 families reveals eight main types. They are the responsible one, the popular one, the socially ambitious one, the studious one, the family isolate, the irresponsible one, the sickly one, and the spoiled one.